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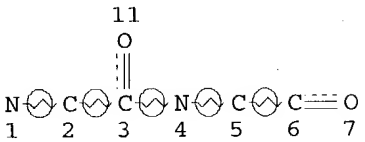

NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
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NUMBER OF NODES IS 8

STEREO ATTRIBUTES: NONE
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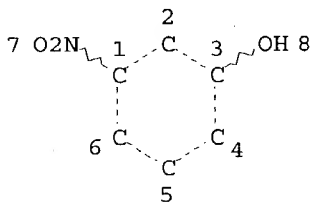
L26 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 8

STEREO ATTRIBUTES: NONE
L27 18 SEA FILE=REGISTRY SUB=L16 SSS FUL L26
L28 7 SEA FILE=HCAPLUS ABB=ON PLU=ON L27

=> d l28 ibib abs hitstr 1-7

L28 ANSWER 1 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:501665 HCAPLUS
DOCUMENT NUMBER: 139:197756
TITLE: Difficult Macrocyclizations: New Strategies for Synthesizing Highly Strained Cyclic Tetrapeptides
AUTHOR(S): Meutermans, Wim D. F.; Bourne, Gregory T.; Golding, Simon W.; Horton, Douglas A.; Campitelli, Marc R.; Craik, David; Scanlon, Martin; Smythe, Mark L.
CORPORATE SOURCE: Institute for Molecular Bioscience, University of Queensland, St. Lucia, 4072, Australia
SOURCE: Organic Letters (2003), 5(15), 2711-2714
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal

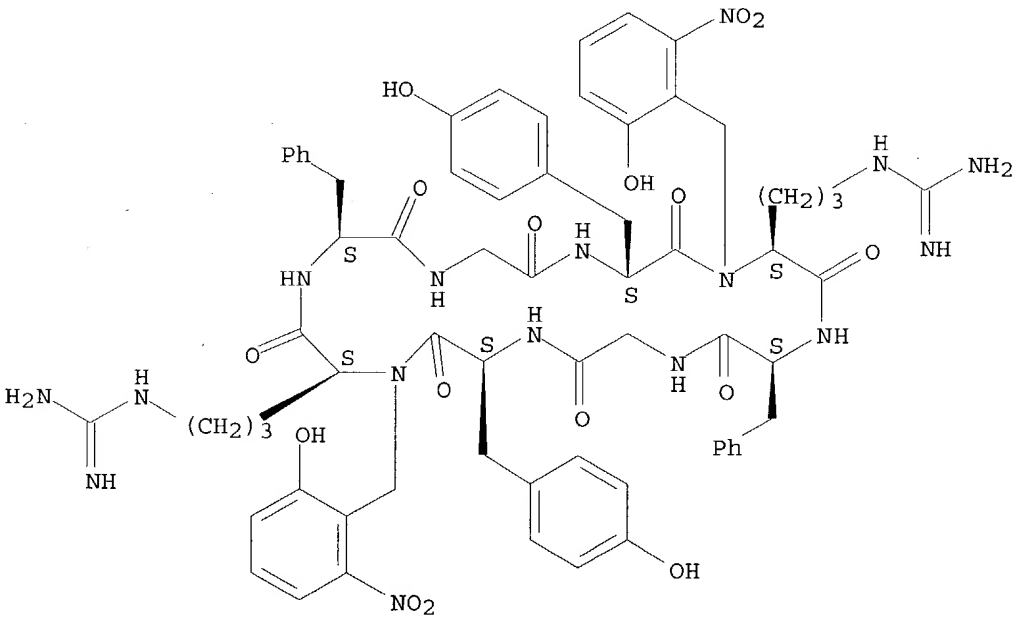
LANGUAGE: English
OTHER SOURCE(S): CASREACT 139:197756

AB To synthesize highly strained cyclic tetrapeptides, the authors developed a macrocyclization strategy that involves the inclusion of 2-hydroxy-6-nitrobenzyl (HnB) as an N-protective group at the N-terminus and in the "middle" of the sequence. The N-terminal auxiliary performs a ring closure/ring contraction role, and the backbone auxiliary promotes cis amide bonds to facilitate the otherwise difficult ring contraction. Following this route, the all-L cyclo[Tyr-Arg-Phe-Ala] was successfully prepared

IT **583051-34-7P 583051-36-9P**
RL: BYP (Byproduct); PREP (Preparation)
(preparation of highly strained cyclic tetrapeptides via cyclizations of linear peptides containing N-protecting hydroxynitrobenzyl groups)

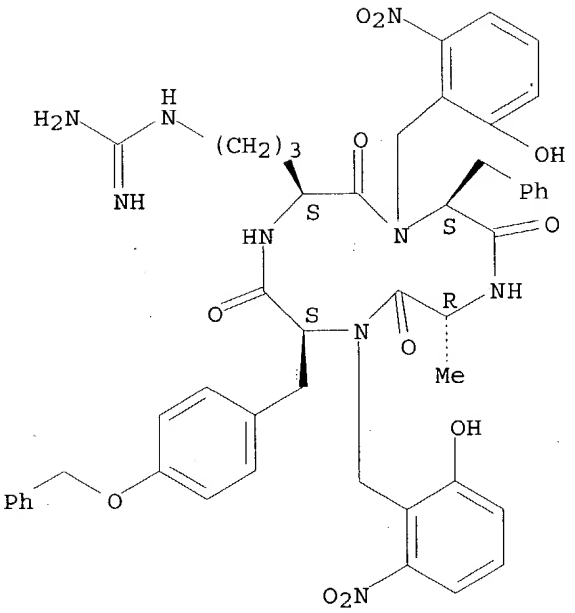
RN 583051-34-7 HCAPLUS
CN Cyclo[N2-[(2-hydroxy-6-nitrophenyl)methyl]-L-arginyl-L-phenylalanylglycyl-L-tyrosyl-N2-[(2-hydroxy-6-nitrophenyl)methyl]-L-arginyl-L-phenylalanylglycyl-L-tyrosyl] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 583051-36-9 HCAPLUS
CN Cyclo[D-alanyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-O-(phenylmethyl)-L-tyrosyl-L-arginyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-L-phenylalanyl] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



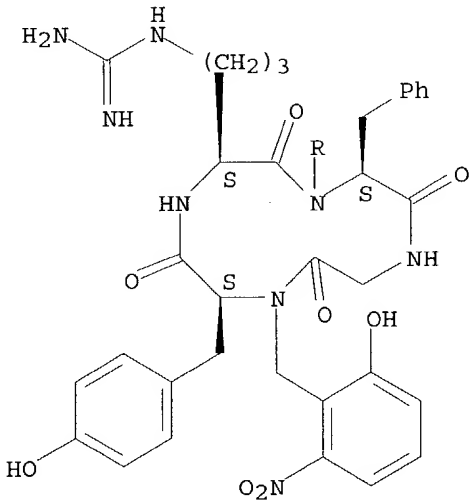
IT **263276-96-6P 263277-01-6P 263277-08-3P**
263277-33-4P 583051-15-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of highly strained cyclic tetrapeptides via cyclizations of linear peptides containing N-protecting hydroxynitrobenzyl groups)

RN 263276-96-6 HCAPLUS

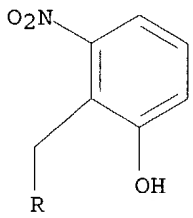
CN Cyclo[L-arginyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-L-phenylalanylglycyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-L-tyrosyl] (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

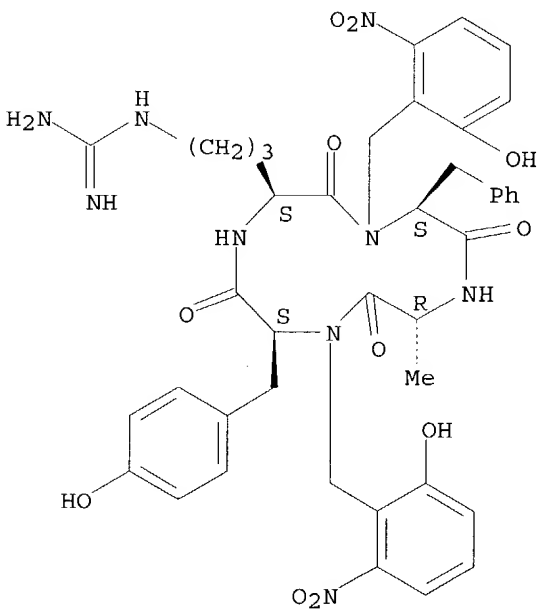


PAGE 2-A



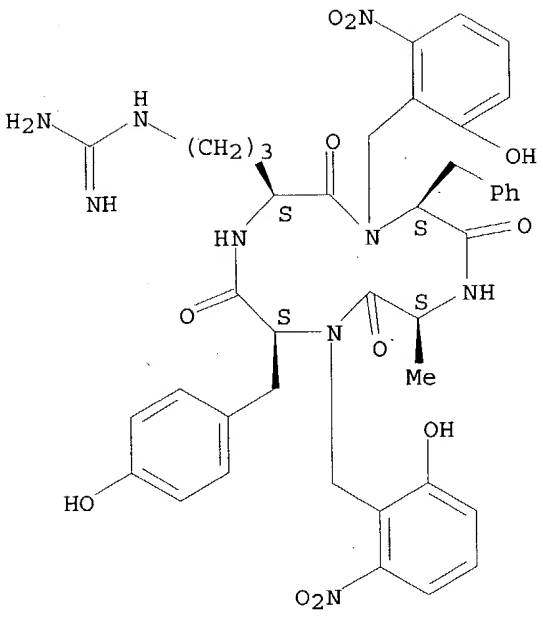
RN 263277-01-6 HCAPLUS
CN Cyclo[D-alanyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-L-tyrosyl-L-arginyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-L-phenylalanyl] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



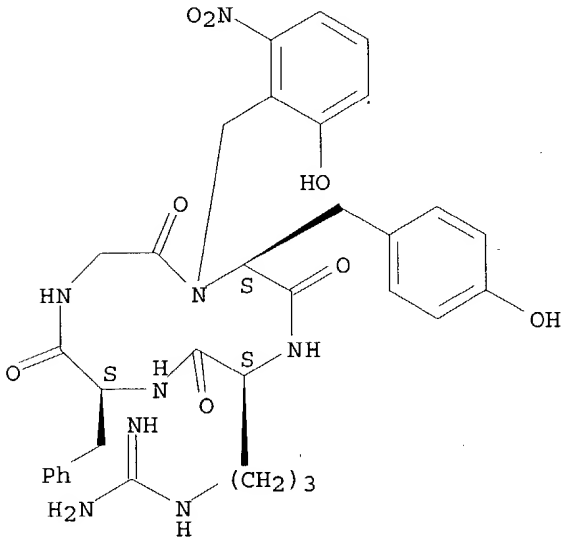
RN 263277-08-3 HCAPLUS
CN Cyclo[L-alanyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-L-tyrosyl-L-arginyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-L-phenylalanyl] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



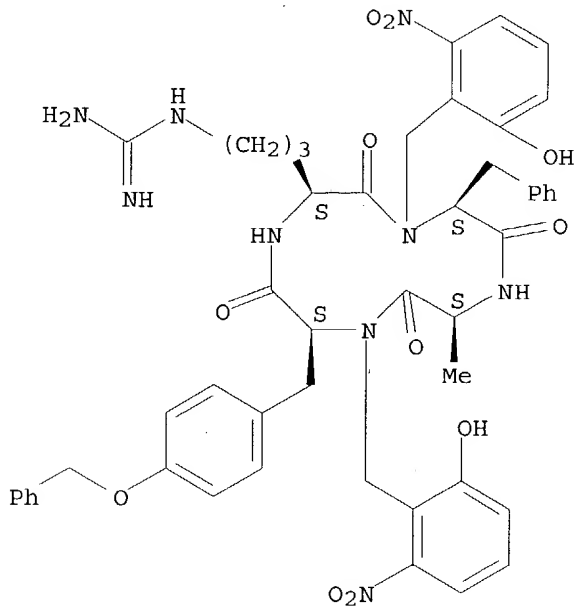
RN 263277-33-4 HCAPLUS
CN Cyclo[L-arginyl-L-phenylalanylglycyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-L-tyrosyl] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



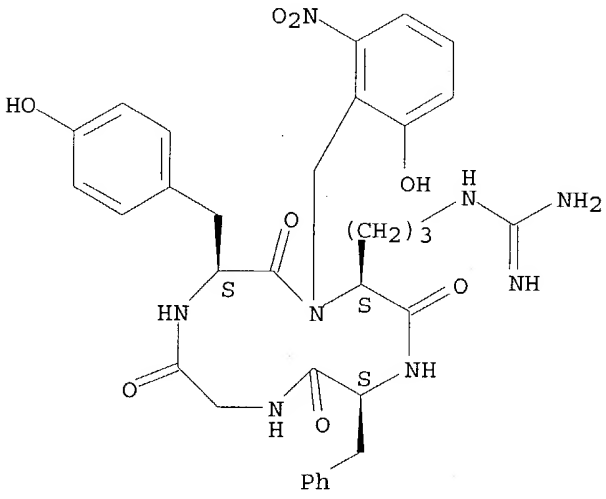
RN 583051-15-4 HCAPLUS
CN Cyclo[L-alanyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-O-(phenylmethyl)-L-tyrosyl-L-arginyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-L-phenylalanyl] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **583051-31-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of highly strained cyclic tetrapeptides via cyclizations of linear peptides containing N-protecting hydroxynitrobenzyl groups)
RN 583051-31-4 HCAPLUS
CN Cyclo[N2-[(2-hydroxy-6-nitrophenyl)methyl]-L-arginyl-L-phenylalanylglycyl-L-tyrosyl] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 2 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:894606 HCAPLUS

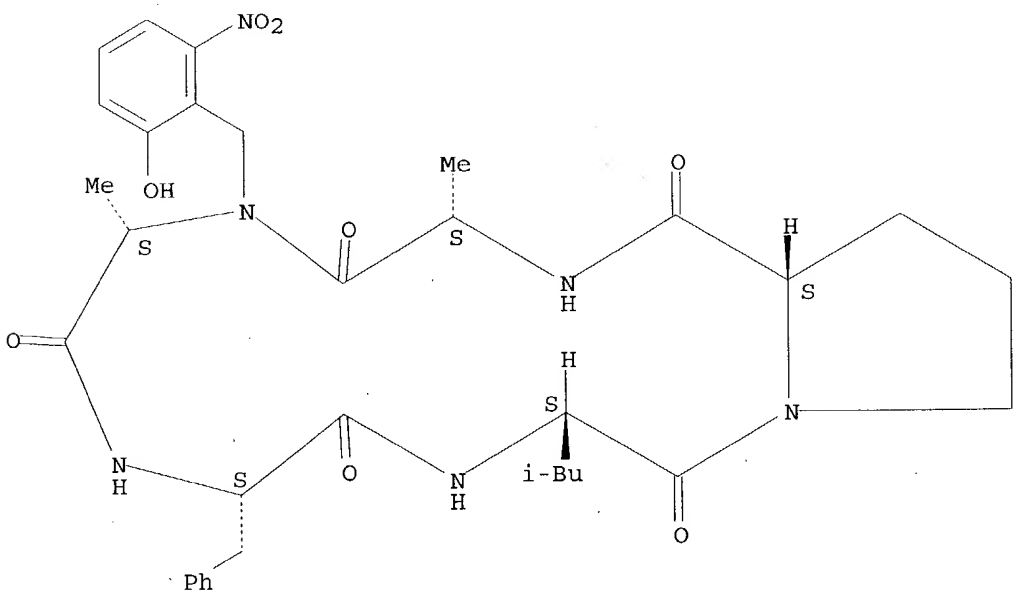
DOCUMENT NUMBER: 134:252618
TITLE: Synthesis of small cyclic peptides: An auxiliary approach to address the "difficult cyclization" problem
AUTHOR(S): Meutermans, Wim D. F.; Golding, Simon W.; Bourne, Greg T.; Miranda, Les P.; Dooley, Michael J.; Alewood, Paul F.; Smythe, Mark L.
CORPORATE SOURCE: Centre for Drug Design and Development, University of Queensland, Brisbane, 4072, Australia
SOURCE: Peptides for the New Millennium, Proceedings of the American Peptide Symposium, 16th, Minneapolis, MN, United States, June 26-July 1, 1999 (2000), Meeting Date 1999, 183-185. Editor(s): Fields, Gregg B.; Tam, James P.; Barany, George. Kluwer Academic Publishers: Dordrecht, Neth.
CODEN: 69ATHX
DOCUMENT TYPE: Conference
LANGUAGE: English

AB A symposium report. A peptide, Ala-Phe-Leu-Pro-Ala, which upon cyclization only produces oligomeric products was converted to the target monocyclic product in high yields using a photo-labile peptide cyclization auxiliary, 6-nitro-2-hydroxybenzyl, by ring closure/ring contraction strategy.

IT **252667-14-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of small cyclic peptides using photo-labile peptide cyclization auxiliary by ring closure/ring contraction strategy)

RN 252667-14-4 HCAPLUS
CN Cyclo[L-alanyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-L-alanyl-L-phenylalanyl-L-leucyl-L-prolyl] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 3 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:227675 HCAPLUS
DOCUMENT NUMBER: 132:265506
TITLE: Solid phase synthesis of cyclic peptides as opioid receptors used in drug screening programs
INVENTOR(S): Smythe, Mark Leslie; Meutermans, Wim Denis Frans; Bourne, Gregory Thomas; McGeary, Ross Peter
PATENT ASSIGNEE(S): The University of Queensland, Australia
SOURCE: PCT Int. Appl., 159 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2000018790	A1	20000406	WO 1999-AU813		19990924
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM					
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG					
CA 2345407	AA	20000406	CA 1999-2345407		19990924
AU 9961830	A1	20000417	AU 1999-61830		19990924
AU 766495	B2	20031016			
EP 1115738	A1	20010718	EP 1999-948610		19990924
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO					
JP 2002533299	T2	20021008	JP 2000-572248		19990924
PRIORITY APPLN. INFO.:			AU 1998-6164	A	19980925
			WO 1999-AU813	W	19990924

OTHER SOURCE(S): CASREACT 132:265506

AB This invention relates to methods for preparing cyclic peptides and peptidomimetic compds. in solution and bound to solid supports and to cyclic peptide or peptidomimetic libraries for use in drug screening programs. In particular the invention relates to a generic strategy for synthesis of cyclic peptides or peptidomimetics which enables the efficient synthesis under mild conditions of a wide variety of desired compds. We have examined two approaches: (1) positioning reversible N-amide substituents in the sequence and (2) applying native ligation chemical in an intramol. sense. We have evaluated these for their improvements in the solution and solid phase synthesis of small cyclic peptides. We have systematically investigated the effects of pre-organizing peptides prior to cyclization by using peptide cyclization auxiliaries and have developed new linkers to aid cyclic peptide synthesis. We have found surprising improvements in both yields and purity of products compared to the prior art methods. The combination of these technologies provides a powerful generic approach for the solution and solid phase synthesis of small cyclic peptides. We have also developed linkers and peptide cyclization auxiliaries to aid cyclic peptide synthesis. The ring contraction and N-amide substitution technol. of the invention provide improved methods for the synthesis of cyclic peptides and peptidomimetics. When used in conjunction with linker strategies, this combination provides solid-phase avenues to cyclic

peptides and peptidomimetics. Thus, cyclo[Tyr-Arg-L(or D)-Phe-Gly] were prepared using aminomethyl polystyrene resin p-OCHC6H4O(CH2)4COP (P = resin moiety) by reductive with glycine allyl ester and sequential coupling with phenylalanine, arginine, tyrosine derivs. and assayed for opioid receptor binding activity.

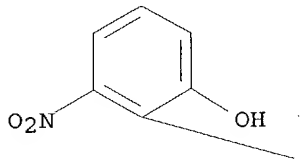
IT **252667-15-5P 263276-95-5P 263277-01-6P**
263277-05-0P 263277-06-1P 263277-08-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(solid phase synthesis of cyclic peptides as opioid receptors used in drug screening programs)

RN 252667-15-5 HCAPLUS

CN Cyclo[L-alanyl-L-alanyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-L-phenylalanyl-L-leucyl-L-prolyl] (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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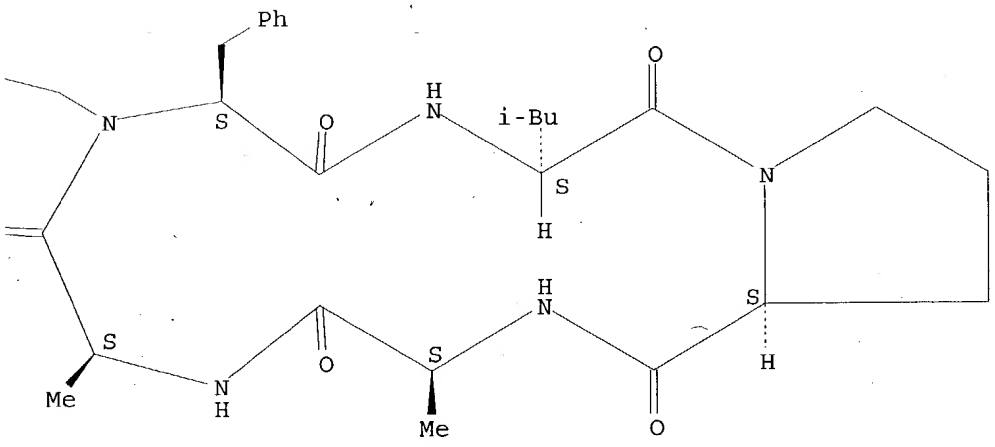
PAGE 1-B

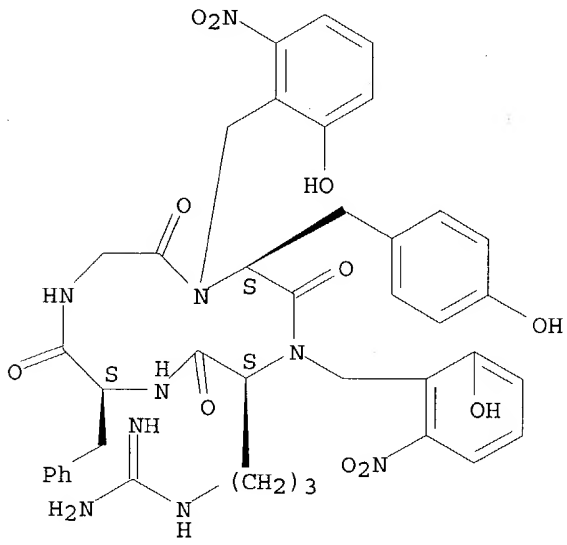


RN 263276-95-5 HCAPLUS

CN Cyclo[N2-[(2-hydroxy-6-nitrophenyl)methyl]-L-arginyl-L-phenylalanylglycyl-

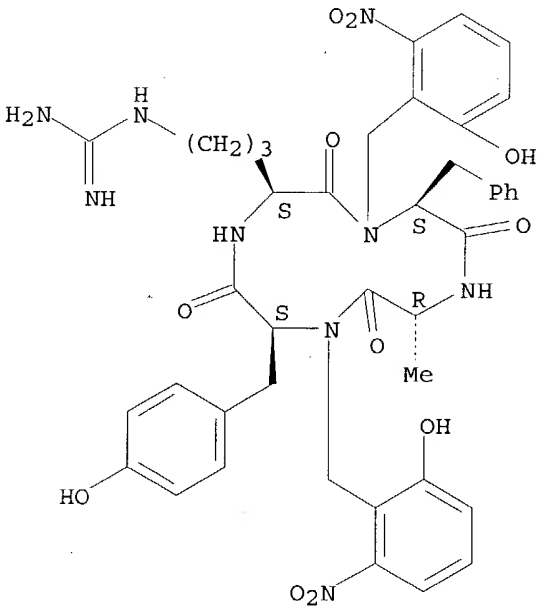
N-[(2-hydroxy-6-nitrophenyl)methyl]-L-tyrosyl] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



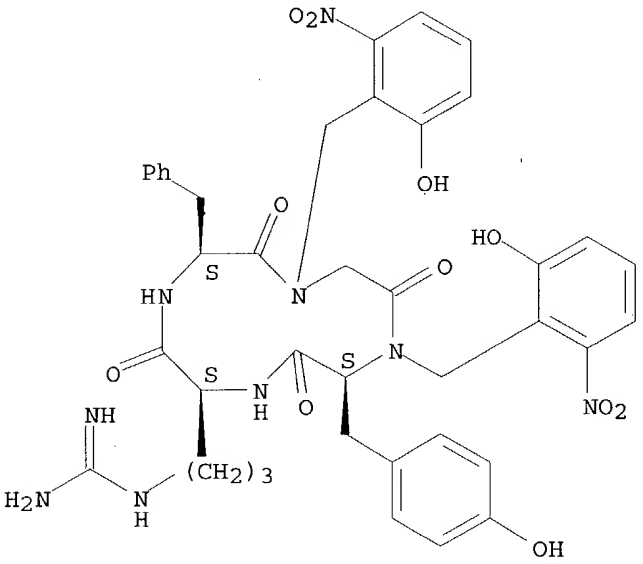
RN 263277-01-6 HCAPLUS
CN Cyclo[D-alanyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-L-tyrosyl-L-arginyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-L-phenylalanyl] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 263277-05-0 HCAPLUS
CN Cyclo[L-arginyl-L-phenylalanyl-N-[(2-hydroxy-6-nitrophenyl)methyl]glycyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-L-tyrosyl] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 263277-06-1 HCAPLUS
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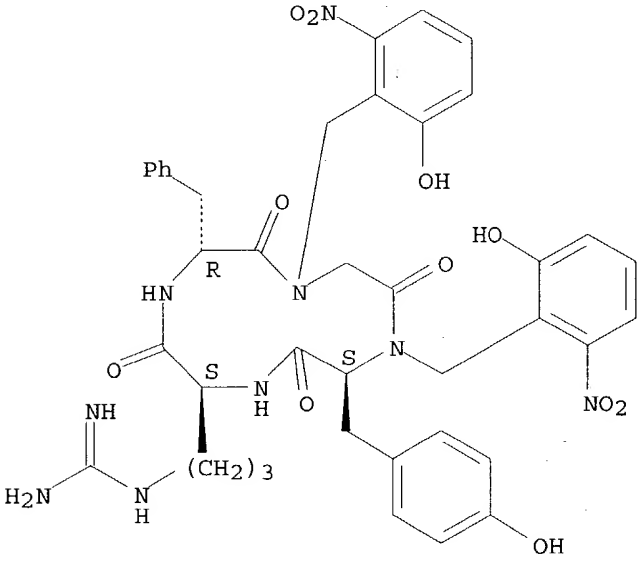
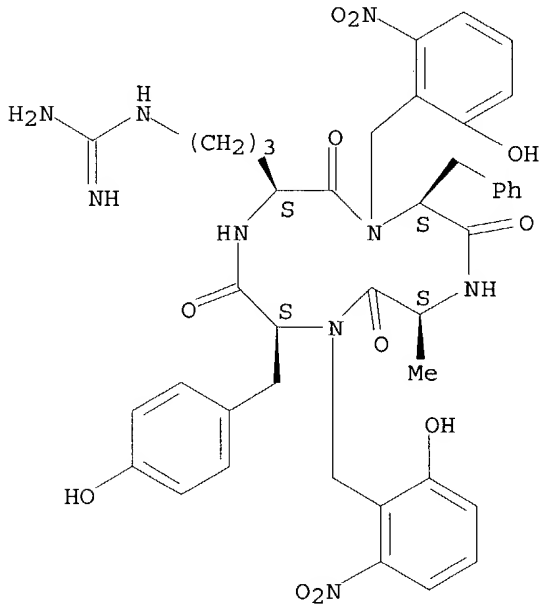
Absolute stereochemistry.



RN 263277-08-3 HCAPLUS
CN Cyclo[L-alanyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-L-tyrosyl-L-arginyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-L-phenylalanyl] (9CI) (CA INDEX NAME)

Absolute stereochemistry.

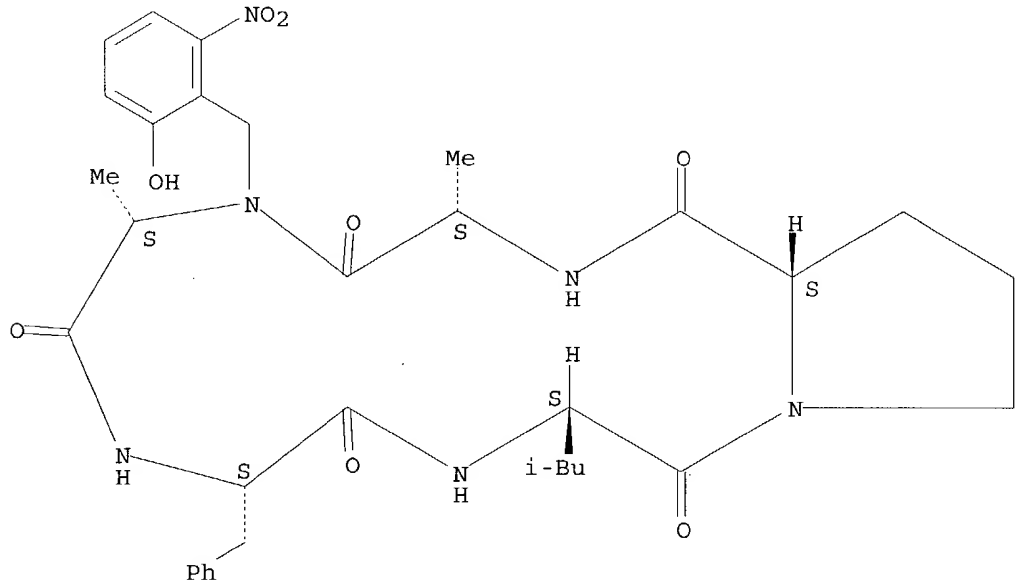


IT **252667-14-4P 263276-93-3P 263276-96-6P**
263277-33-4P 263277-34-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(solid phase synthesis of cyclic peptides as opioid receptors used in drug screening programs)

RN 252667-14-4 HCAPLUS

CN Cyclo[L-alanyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-L-alanyl-L-phenylalanyl-L-leucyl-L-prolyl] (9CI) (CA INDEX NAME)

Absolute stereochemistry.

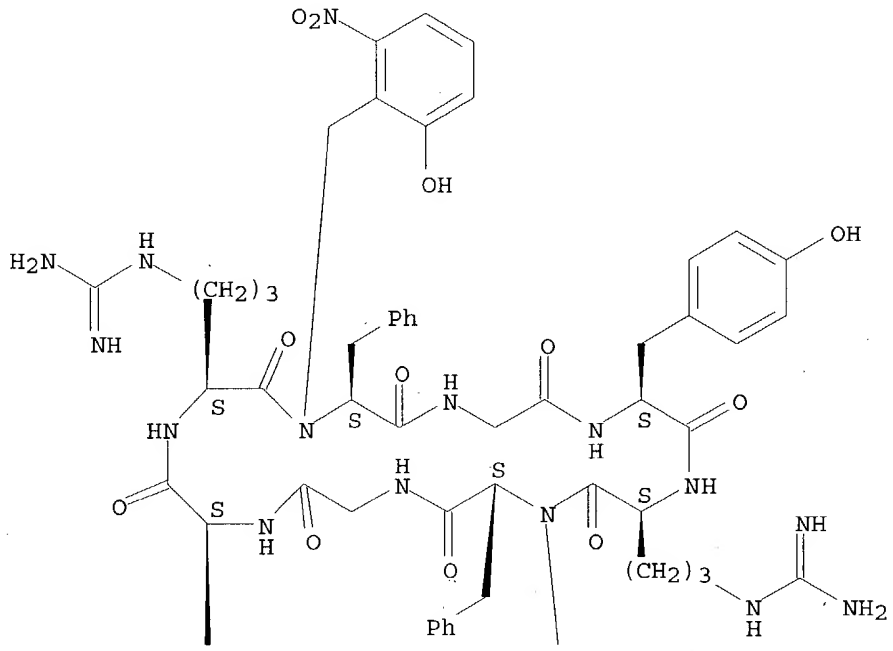


RN 263276-93-3 HCAPLUS

CN Cyclo[L-arginyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-L-phenylalanylglycyl-L-tyrosyl-L-arginyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-L-phenylalanylglycyl-L-tyrosyl] (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



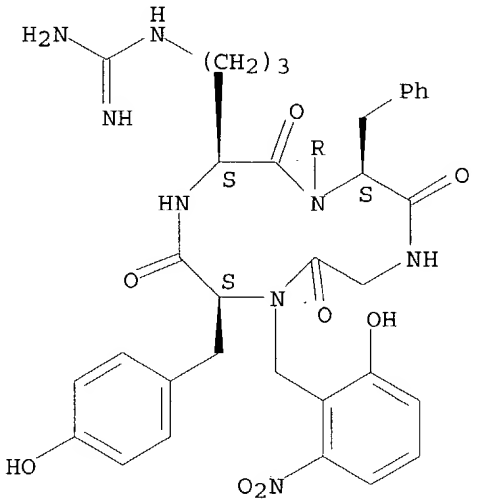
PAGE 2-A

RN 263276-96-6 HCAPLUS

CN Cyclo[L-arginyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-L-phenylalanylglycyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-L-tyrosyl] (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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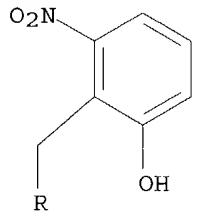
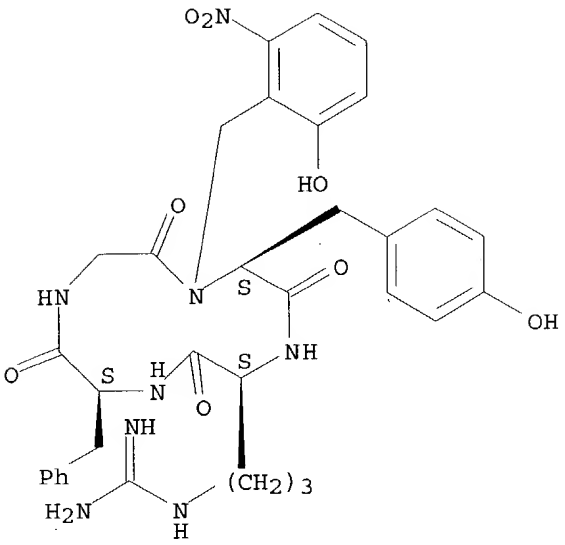


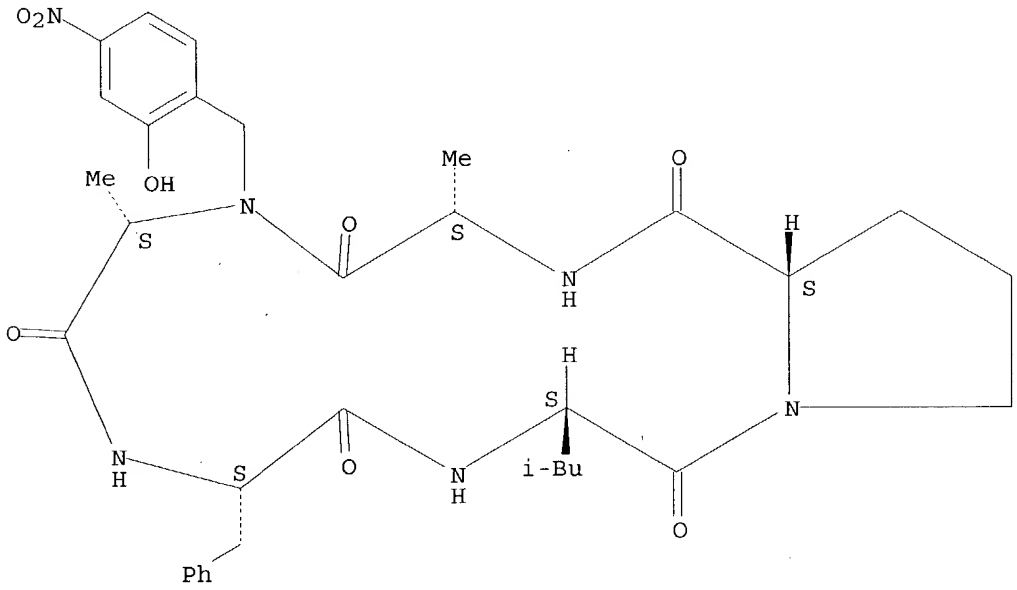
RN 263277-33-4 HCAPLUS
CN Cyclo[L-arginyl-L-phenylalanylglycyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-L-tyrosyl] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 263277-34-5 HCAPLUS
CN Cyclo[L-alanyl-N-[(2-hydroxy-4-nitrophenyl)methyl]-L-alanyl-L-phenylalanyl-L-leucyl-L-prolyl] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 4 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:227674 HCAPLUS
DOCUMENT NUMBER: 132:265505
TITLE: Solid phase synthesis of small cyclic peptides via on-resin cyclization
INVENTOR(S): Smythe, Mark Leslie; Meutermans, Wim Denise Frans

PATENT ASSIGNEE(S): The University of Queensland, Australia
SOURCE: PCT Int. Appl., 84 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000018789	A1	20000406	WO 1999-AU812	19990924
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2345067	AA	20000406	CA 1999-2345067	19990924
AU 9963196	A1	20000417	AU 1999-63196	19990924
AU 768649	B2	20031218		
EP 1115739	A1	20010718	EP 1999-950390	19990924
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002525376	T2	20020813	JP 2000-572247	19990924

PRIORITY APPLN. INFO.: AU 1998-6165 A 19980925
WO 1999-AU812 W 19990924

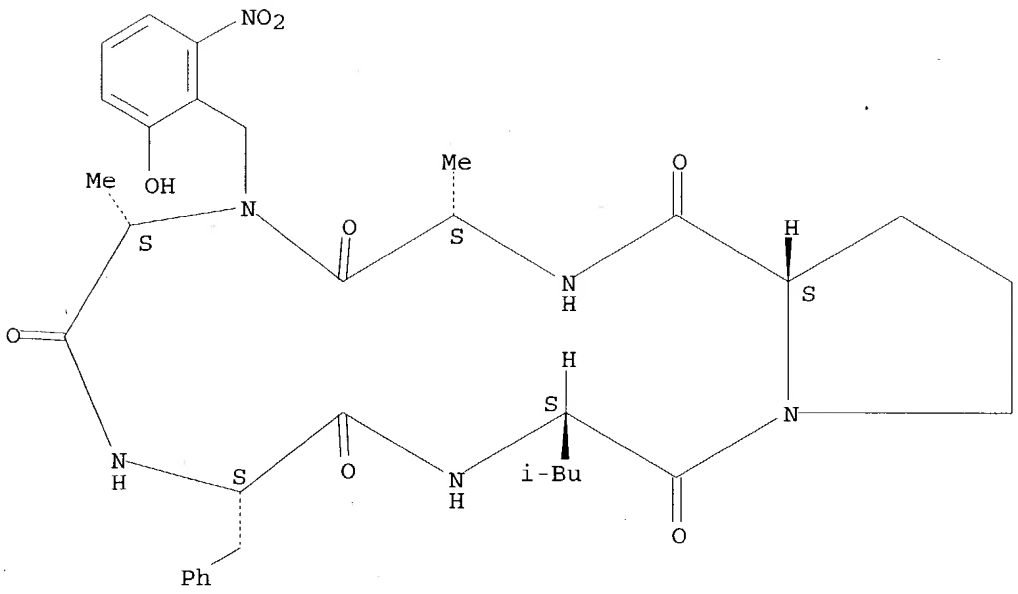
OTHER SOURCE(S): CASREACT 132:265505; MARPAT 132:265505

AB This invention relates to novel auxiliaries for the formation of amide bonds, and to the use of these auxiliaries in a variety of synthetic applications, such as the synthesis of peptides and peptidomimetic compds., and in particular for the synthesis of "small cyclic peptides", so-called "difficult" peptide sequences, and large peptides with a native peptide backbone. The auxiliaries of the invention are also useful in the synthesis of peptides or of C-terminal modified peptides, and in on-resin cyclization of organic mols., ligating chemical, backbone substitution and as backbone linkers. In a particularly preferred embodiment, the invention provides auxiliaries which can be removed by photolysis. Methods of synthesis of a linear or cyclic peptide, a C-terminal modified peptide, or of on-resin cyclization of a peptide mol., comprising the step of linking an amine nitrogen atom to an auxiliary compound of the invention, specific auxiliary compds., which may optionally be linked to a solid support, and kits for synthesis are disclosed and claimed. Thus, cyclo-[Ala-Phe-Leu-Pro-Ala] was prepared via on. resin cyclization reaction.

IT **252667-14-4P 263144-18-9P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(solid phase synthesis of small cyclic peptides via on-resin cyclization)

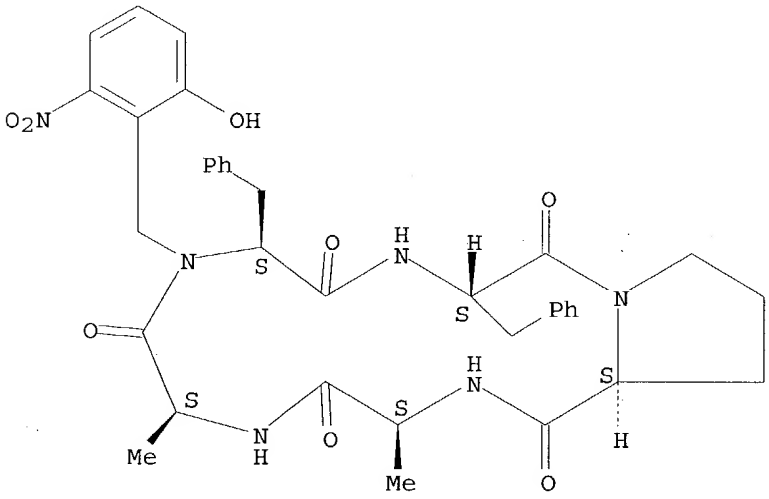
RN 252667-14-4 HCAPLUS
CN Cyclo[L-alanyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-L-alanyl-L-phenylalanyl-L-leucyl-L-prolyl] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 263144-18-9 HCAPLUS
CN Cyclo[L-alanyl-L-alanyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-L-phenylalanyl-L-phenylalanyl-L-prolyl] (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 5 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:643367 HCAPLUS
DOCUMENT NUMBER: 132:36018
TITLE: Synthesis of Difficult Cyclic Peptides by Inclusion of a Novel Photolabile Auxiliary in a Ring Contraction Strategy
AUTHOR(S): Meutermans, Wim D. F.; Golding, Simon W.; Bourne, Greg

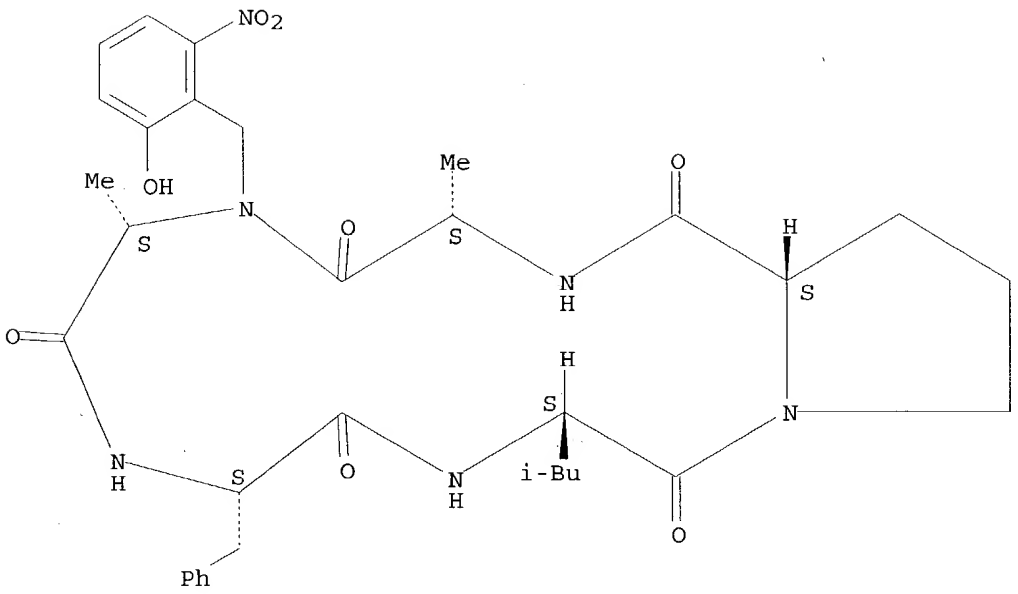
T.; Miranda, Les P.; Dooley, Michael J.; Alewood, Paul F.; Smythe, Mark L.
CORPORATE SOURCE: Centre for Drug Design and Development, University of Queensland, Brisbane, 4072, Australia
SOURCE: Journal of the American Chemical Society (1999), 121(42), 9790-9796
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 132:36018

AB Cyclic peptides comprise a large and important class of biol. active mols. They are generally synthesized through amide bond-forming reactions of the C- and N- termini under high dilution conditions. Yields of such processes are highly dependent on the size of the ring being formed and on the particular amino acids of the linear precursor, giving rise to the well-known sequence-dependent effect of cyclization. To overcome this problem, we have developed a peptide cyclization strategy that proceeds through a ring closure/ring contraction process. The linear peptide Ala-Phe-Leu-Pro-Ala, which does not generate monocyclic product under conventional cyclization conditions, was used as a model to probe a range of auxiliaries. This has led to the development of a new photolabile peptide cyclization auxiliary. The 6-nitro-2-hydroxybenzyl group is readily and quant. introduced at the N-terminus via a reductive alkylation. Cyclization of the auxiliary-peptide initially proceeds through a cyclic nitrophenyl ester that preorganizes the peptide for lactamization. As the C- and N- termini are in close proximity, lactamization is achieved via an intramol. O-N acyl transfer step to produce the N-substituted target cycle. The auxiliary is then removed by mild photolysis to produce the target cyclic peptide, cyclo-[Ala-Phe-Leu-Pro-Ala], in good yield. This strategy should find further useful applications in the assembly of libraries of small cyclic peptides.

IT **252667-14-4P 252667-15-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of in the synthesis of cyclic peptides using a photolabile auxiliary)

RN 252667-14-4 HCAPLUS
CN Cyclo[L-alanyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-L-alanyl-L-phenylalanyl-L-leucyl-L-prolyl] (9CI) (CA INDEX NAME)

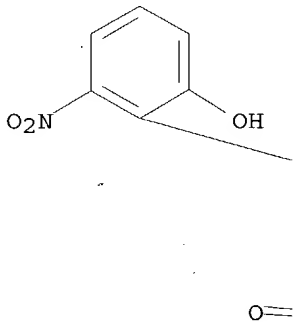
Absolute stereochemistry.

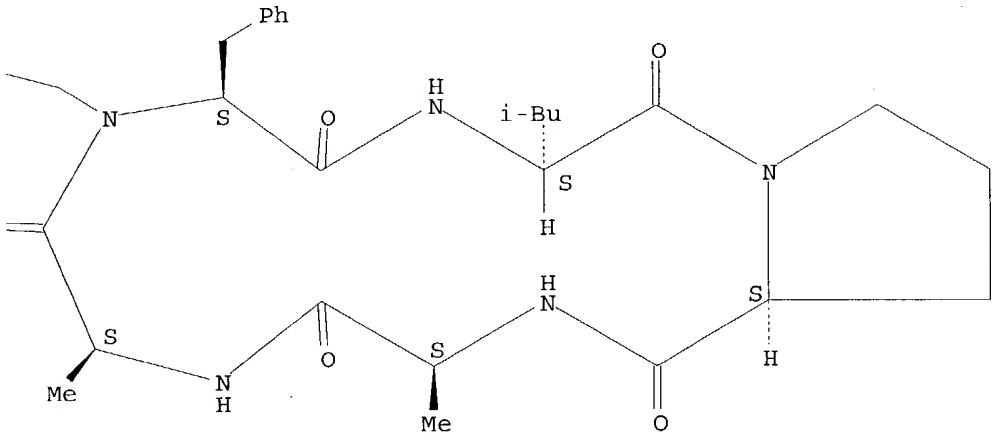


RN 252667-15-5 HCAPLUS
CN Cyclo[L-alanyl-L-alanyl-N-[(2-hydroxy-6-nitrophenyl)methyl]-L-phenylalanyl-L-leucyl-L-prolyl] (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

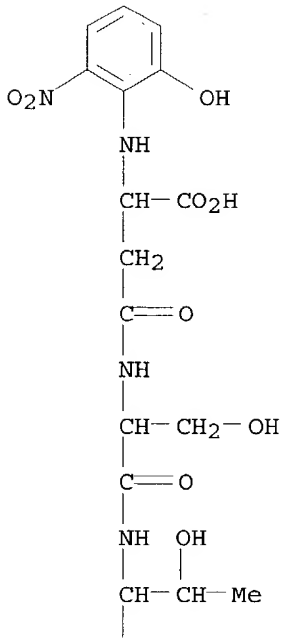




REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 6 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1975:86601 HCAPLUS
DOCUMENT NUMBER: 82:86601
TITLE: Conformation of the antibiotic A-128-OP and its derivatives studied by optical rotatory dispersion and circular dichroism
AUTHOR(S): Romanov, V. V.; Smirnova, I. G.; Minaev, V. E.; Silaev, A. B.; Katrukha, G. S.
CORPORATE SOURCE: Mosk. Gos. Univ. im. Lomonosova, Moscow, USSR
SOURCE: Khimiya Prirodnykh Soedinenii (1974), (5), 640-5
CODEN: KPSUAR; ISSN: 0023-1150
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GI For diagram(s), see printed CA Issue.
AB The conformation of antibiotic A-128-OP (I) was determined by ORD and CD spectroscopy. The planes of the β-methyl- and didehydrotryptophan residues in I are parallel.
IT **54855-53-7**
RL: PRP (Properties)
(ORD and CD spectra of)
RN 54855-53-7 HCAPLUS
CN L-Proline, 1-[α,β-didehydro-N-[N-[erythro-3-hydroxy-N-[trans-3-hydroxy-1-[N-[N-[N-[N-[N-[N-(2-hydroxy-6-nitrophenyl)-D-β-aspartyl]-D-seryl]-D-allothreonyl]-L-threonyl]-L-alanyl]glycyl]-L-prolyl]-L-leucyl]-β-methyl-L-tryptophyl]tryptophyl]-3-hydroxy-, ψ-lactone, cis- (9CI) (CA INDEX NAME)

PAGE 1-A



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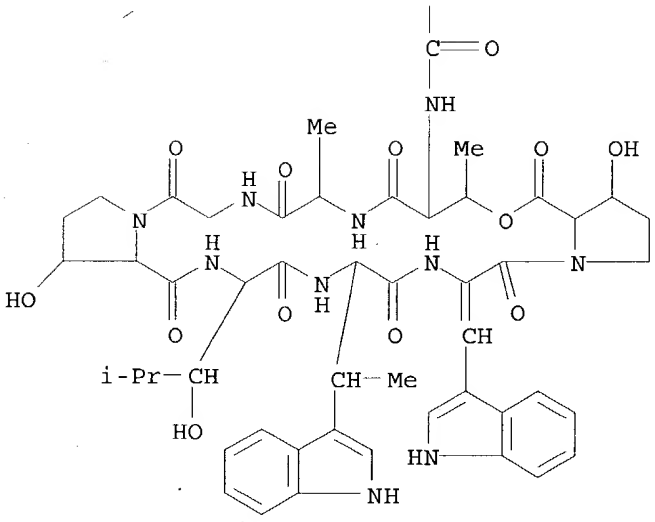
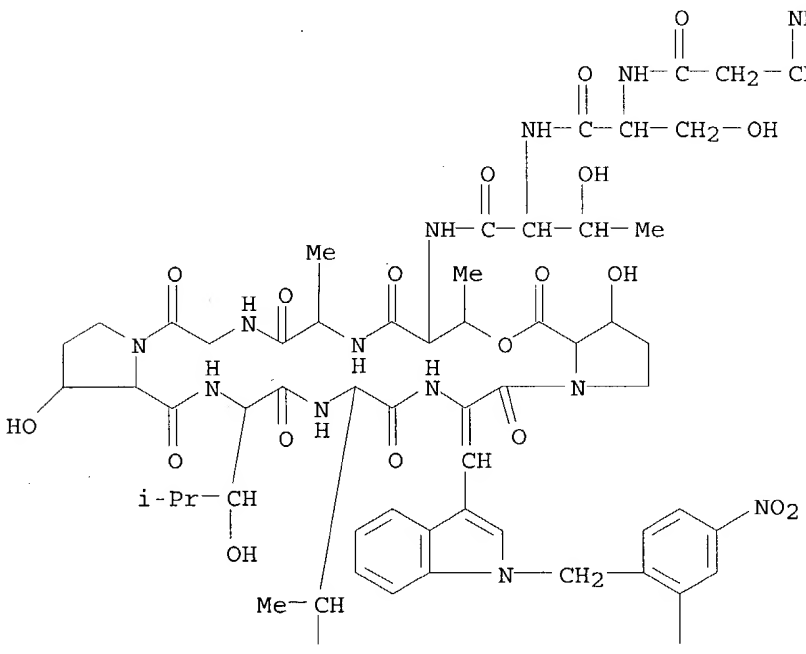


L28 ANSWER 7 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1975:86600 HCAPLUS
DOCUMENT NUMBER: 82:86600
TITLE: Preparation and properties of derivatives of the antibiotic A-128-OP according to residues of β-methyltryptophan and dehydrotryptophan

AUTHOR(S): Katrukha, G. S.; Smirnova, I. G.; Silaev, A. B.; Kuz'menko, T. E.
CORPORATE SOURCE: Mosk. Gos. Univ. im. Lomonosova, Moscow, USSR
SOURCE: Khimiya Prirodnykh Soedinenii (1974), (5), 636-9
CODEN: KPSUAR; ISSN: 0023-1150
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GI For diagram(s), see printed CA Issue.
AB The tryptophan residues of antibiotic A-128-OP (I) were modified by treatment with HCHO-HCl, 2-O2NC6H4SCl, and 2,5-HO-(O2N)C6H3CH2Br to give the bis(1-formylindole), bis[2-(2-nitrophenylthio)indole], and bis[3-(2-hydroxy-5-nitrobenzyl)-3H-indole] derivs. of I, resp. The antibiotic activities of these derivs. were less than that of I.
IT **54855-52-6P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation and antibiotic activity of)
RN 54855-52-6 HCAPLUS
CN L-Proline, 1-[N-[N-[N-[1-[N-[N-[N-[N-(N-D-β-aspartyl-D-seryl)-D-allothreonyl]-L-threonyl]-L-alanyl]glycyl]-trans-3-hydroxy-L-prolyl]-erythro-3-hydroxy-L-leucyl]-1-[(2-hydroxy-4-nitrophenyl)methyl]-β-methyl-L-tryptophyl]-α,β-didehydro-1-[(2-hydroxy-4-nitrophenyl)methyl]tryptophyl]-3-hydroxy-, ψ-lactone, cis- (9CI) (CA INDEX NAME)

PAGE 1-A



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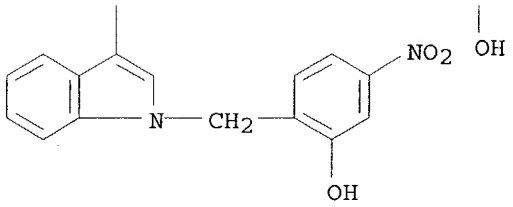

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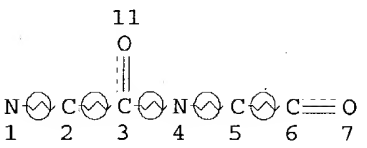


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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS   8

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L29         2213 SEA FILE=HCAPLUS ABB=ON  PLU=ON  "PEPTIDES (L) CYCLIC"+OLD/CT(L
                 )PREP/RL
L30         8457 SEA FILE=HCAPLUS ABB=ON  PLU=ON  SOLID PHASE SYNTHESIS+NT/CT
L31          251 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L29 AND L30
L33       138899 SEA FILE=HCAPLUS ABB=ON  PLU=ON  CYCLIZATION+OLD,NT/CT
L34          102 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L33 AND L31
L35           88 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L34 AND L16


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L35  ANSWER 1 OF 88  HCAPLUS  COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER:         2004:402603  HCAPLUS
DOCUMENT NUMBER:          141:106729
TITLE:                    Fmoc-Based Synthesis of Peptide α-Thioesters
                          Using an Aryl Hydrazine Support
AUTHOR(S):                Camarero, Julio A.; Hackel, Benjamin J.; De Yoreo,
                          James J.; Mitchell, Alexander R.
CORPORATE SOURCE:         Chemical Biology and Nuclear Sciences Division,
                          Lawrence Livermore National Laboratory, University of
                          California, Livermore, CA, 94550, USA
SOURCE:                   Journal of Organic Chemistry (2004), 69(12), 4145-4151
                          CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER:                American Chemical Society
DOCUMENT TYPE:            Journal
LANGUAGE:                 English
AB   C-Terminal peptide thioesters are key intermediates in the
     synthesis/semisynthesis of proteins and of cyclic peptides by native chemical
     ligation.  They are prepared by solid-phase peptide synthesis (SPPS) or
     biosynthetically by protein splicing techniques.  Until recently, the
     chemical synthesis of C-terminal α-thioester peptides by SPPS was
     largely restricted to the use of Boc/Benzyl chemical due to the poor
     stability of the thioester bond to the basic conditions required for the
     deprotection of the Nα-Fmoc group.  This work describes a new method
     for the SPPS of C-terminal thioesters using Fmoc/t-Bu chemical  This method
     uses an aryl hydrazine linker, which is totally stable to conditions
     required for Fmoc-SPPS.  When the peptide synthesis has been completed,
     activation of the linker is achieved by mild oxidation  This step converts
     the acyl hydrazine group into a highly reactive acyl diazene intermediate
```

which reacts with an α-amino acid alkyl thioester (H-AA-SR; R = Et in this work) to yield the corresponding peptide α-thioester in good yield. This method has been successfully used to prepare a variety of peptide thioesters, a cyclic peptide, and a fully functional Src homol. 3 (SH3) protein domain.

CC 34-4 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 6

IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; cyclization of a peptide thioester by intramol. native chemical ligation)

IT **Cyclization**
(cyclization of a peptide thioester by intramol. native chemical ligation)

IT **Solid phase synthesis**
(peptide; Fmoc-based solid-phase synthesis of peptide thioesters using an aryl hydrazine support)

IT **717129-32-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(cyclization of a peptide thioester by intramol. native chemical ligation)

REFERENCE COUNT: 68 THERE ARE 68 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 2 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2004:337683 HCAPLUS
DOCUMENT NUMBER: 141:71812
TITLE: On-resin head-to-tail cyclization of cyclotetrapeptides: optimization of crucial parameters
AUTHOR(S): Alcaro, Maria C.; Sabatino, Giuseppina; Uziel, Jacques; Chelli, Mario; Ginanneschi, Mauro; Rovero, Paolo; Papini, Anna M.
CORPORATE SOURCE: Dipartimento di Chimica Organica "Ugo Schiff", Universita di Firenze, Sesto Fiorentino, I-50019, Italy
SOURCE: Journal of Peptide Science (2004), 10(4), 218-228
CODEN: JPSIEI; ISSN: 1075-2617
PUBLISHER: John Wiley & Sons Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Cyclotetrapeptides are constrained cyclic peptides whose synthesis is considered a difficult task. A methodol. based on on-resin head-to-tail cyclization by anchoring the side chain of a trifunctional amino acid was investigated. A series of model cyclotetrapeptides containing the RGD sequence cyclo(Xaa-Arg-Gly-Asp) (Xaa = Ala, Phe, Phg, D-Ala, D-Phe, D-Phg) was synthesized with no cyclodimerization byproducts. An evaluation and optimization study of all of the parameters directly involved in the ring closure was performed.

CC 34-3 (Amino Acids, Peptides, and Proteins)

IT **Peptides, preparation**
RL: BYP (Byproduct); RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(**cyclic**; synthesis of cyclotetrapeptides by on-resin head-to-tail cyclization)

IT **Solid phase synthesis**
(peptide; synthesis of cyclotetrapeptides by on-resin head-to-tail cyclization)

IT **Cyclization**
(synthesis of cyclotetrapeptides by on-resin head-to-tail cyclization)

IT **710307-32-7P 710307-33-8P**
RL: BYP (Byproduct); PREP (Preparation)

(synthesis of cyclotetrapeptides by on-resin head-to-tail cyclization)

IT **136594-04-2P 141261-62-3P 171745-37-2P**
184906-58-9P 325775-01-7P 325775-04-0P **661492-50-8P**
661492-51-9P 661492-52-0P 710307-22-5P 710307-23-6P
710307-31-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of cyclotetrapeptides by on-resin head-to-tail cyclization)

REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 3 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2004:209947 HCAPLUS
DOCUMENT NUMBER: 140:391483
TITLE: Synthesis of Gramicidin S and Its Analogues via an On-Resin Macrolactamization Assisted by a Predisposed Conformation of the Linear Precursors
AUTHOR(S): Bu, Xianzhang; Wu, Xiaoming; Ng, Na Lee Joyce; Mak, Chun Kit; Qin, Chuanguang; Guo, Zhihong
CORPORATE SOURCE: Department of Chemistry and Biotechnology Research Institute, Hong Kong University of Science and Technology, Hong Kong, Peop. Rep. China
SOURCE: Journal of Organic Chemistry (2004), 69(8), 2681-2685
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A simple and efficient preparation of gramicidin S and its analogs is described. It involves solid-phase peptide synthesis and on-resin macrolactamization without side chain protection, affording cyclic products in high yield and high purity. The high specificity of the cyclization reaction was shown to originate in the formation of a pre-organized conformation of the linear biosynthetic precursor of gramicidin S. This facile method will provide convenient access to the analogs of the natural product for functional optimization to counter microbial resistance.

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 22

IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; preparation of gramicidin S and its analogs via an on-resin macrolactamization assisted by a predisposed conformation of the linear precursors)

IT **Cyclization**
(lactamization, macrolactamization; preparation of gramicidin S and its analogs via an on-resin macrolactamization assisted by a predisposed conformation of the linear precursors)

IT **Macrocyclization**
(macrolactamization; preparation of gramicidin S and its analogs via an on-resin macrolactamization assisted by a predisposed conformation of the linear precursors)

IT **Solid phase synthesis**
(peptide; preparation of gramicidin S and its analogs via an on-resin macrolactamization assisted by a predisposed conformation of the linear precursors)

IT **113-73-5P**, Gramicidin S
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation of gramicidin S and its analogs via an on-resin macrolactamization assisted by a predisposed conformation of the linear precursors)

IT 478495-94-2P **540728-81-2P 688047-88-3P**
688047-89-4P 688047-90-7P 688047-91-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of gramicidin S and its analogs via an on-resin macrolactamization assisted by a predisposed conformation of the linear precursors)
REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 4 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2004:209670 HCAPLUS
DOCUMENT NUMBER: 140:391487
TITLE: Synthesis of novel basic head-to-side-chain cyclic dynorphin A analogs: strategies and side reactions
AUTHOR(S): Vig, Balvinder S.; Murray, Thomas F.; Aldrich, Jane V.
CORPORATE SOURCE: Department of Pharmaceutical Sciences, School of Pharmacy, University of Maryland, Baltimore, MD, 21201, USA
SOURCE: Biopolymers (2003), 71(6), 620-637
CODEN: BIPMAA; ISSN: 0006-3525
PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Novel N-terminus-to-side-chain cyclic analogs of the opioid peptide dynorphin (Dyn) A-(1-11)NH2 were prepared that retain the basicity of the N-terminal amine and restrict the backbone conformation around the important Tyr1 residue. Cyclic peptides were synthesized in which the N-terminal amine and the Nε-amine of a Lys at position 3 or 5 were attached to the α-carbon and carbonyl of an acetyl group, resp. Several synthetic strategies were explored with detailed anal. of the side reactions in order to obtain the desired cyclic peptides. One of the side reactions observed involved premature loss of the N-terminal 9-fluorenylmethoxycarbonyl (Fmoc) group during the neutralization step following deprotection of the Mtt (4-methyltrityl) protecting group from the side chain of Lys. The successful strategy involved the synthesis of the linear peptide up through Gly2 and functionalization through the Nε-amine of Lys. A linear N-terminal alkylated analog was prepared by alkylation of the peptide on the resin with an equimolar amount of bromoacetamide, followed by treatment of the peptide with Fmoc-OSu prior to cleavage from the resin to facilitate separation by reversed phase high performance liquid chromatog. of unreacted peptide from the desired alkylated product. The novel N-terminal cyclic Dyn A analogs and the linear analog were evaluated for their opioid receptor affinities. These peptides exhibited large losses in affinity for opioid receptors; the low affinity of the linear N-terminal alkylated peptide suggested that the α-acetamide group on the N-terminal amine resulted in unfavorable interactions with opioid receptors.
CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 1
IT **Solid phase synthesis**
(peptide; synthesis and opioid receptor affinities of basic head-to-side-chain cyclic dynorphin A analogs)
IT **Cyclization**
(synthesis and opioid receptor affinities of basic head-to-side-chain cyclic dynorphin A analogs)
IT **Peptides, preparation**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**
(synthesis and opioid receptor affinities of basic head-to-side-chain

cyclic dynorphin A analogs)
IT 88161-22-2DP, Dynorphin a, analogs **509113-18-2P**
685844-33-1P 685844-34-2P 685844-35-3P
685844-36-4P 685844-37-5P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(synthesis and opioid receptor affinities of basic head-to-side-chain cyclic dynorphin A analogs)
REFERENCE COUNT: 58 THERE ARE 58 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 5 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2004:178959 HCAPLUS
DOCUMENT NUMBER: 140:388520
TITLE: Optimization of antibacterial cyclic decapeptides
AUTHOR(S): Qin, Chuanguang; Bu, Xianzhang; Zhong, Xiaofen; Ng, Na Lee Joyce; Guo, Zhihong
CORPORATE SOURCE: Department of Chemistry and Biotechnology Research Institute, Hong Kong University of Science and Technology, Hong Kong, Peop. Rep. China
SOURCE: Journal of Combinatorial Chemistry (2004), 6(3), 398-406
CODEN: JCCHFF; ISSN: 1520-4766
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A previously developed method for cyclic peptide synthesis was demonstrated to be able to provide convenient access to large combinatorial libraries of analogs, and this methodol. was applied to the optimization of natural product cyclic decapeptides. Using this method, a 192-member library was designed and successfully constructed on the basis of the natural products tyrocidines (tyrocidine A, I), streptocidins, and loloatins to increase the therapeutic indexes of these antibiotics. Library screening identified nine analogs whose therapeutic indexes were increased by up to 90-fold in comparison to the natural products. Three of these analogs showed significant increase in antibacterial potency and concurrent drastic decrease in hemolytic activity. Since the natural products target the bacterial cell wall, the newly discovered analogs are promising leads for drug development against drug-resistant bacteria.
CC 10-5 (Microbial, Algal, and Fungal Biochemistry)
Section cross-reference(s): 26
IT **Cyclization**
(conformation-dependent self-; optimization of antibacterial cyclic decapeptides)
IT **Peptides, biological studies**
RL: BSU (Biological study, unclassified); CPN (Combinatorial preparation); PAC (Pharmacological activity); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); CMBI (Combinatorial study); **PREP (Preparation)**; USES (Uses)
(**cyclic**, deca-; optimization of antibacterial **cyclic** decapeptides)
IT **Solid phase synthesis**
(optimization of antibacterial cyclic decapeptides)
IT **1481-70-5DP**, Tyrocidine A, analogs **1481-70-5P**, Tyrocidine A **685869-83-4P 685869-84-5P**
685869-85-6P 685869-86-7P 685869-87-8P
685869-88-9P 685869-89-0P 685869-90-3P
685869-91-4P
RL: BSU (Biological study, unclassified); CPN (Combinatorial preparation);

PAC (Pharmacological activity); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); CMBI (Combinatorial study); PREP (Preparation); USES (Uses)
(optimization of antibacterial cyclic decapeptides)

IT **352685-49-5P 685869-60-7P 685869-61-8P**
685869-62-9P 685869-63-0P 685869-64-1P
685869-65-2P 685869-66-3P 685869-67-4P
685869-68-5P 685869-69-6P 685869-70-9P
685869-71-0P 685869-72-1P 685869-73-2P
685869-74-3P 685869-75-4P 685869-76-5P
685869-77-6P 685869-78-7P 685869-79-8P
685869-80-1P 685869-81-2P 685869-82-3P
RL: BSU (Biological study, unclassified); CPN (Combinatorial preparation); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); CMBI (Combinatorial study); PREP (Preparation)
(optimization of antibacterial cyclic decapeptides)

IT **685869-58-3P 685869-59-4P**
RL: BSU (Biological study, unclassified); CPN (Combinatorial preparation); PUR (Purification or recovery); BIOL (Biological study); CMBI (Combinatorial study); PREP (Preparation)
(preparation and properties of)

REFERENCE COUNT: 61 THERE ARE 61 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 6 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2004:109757 HCAPLUS
DOCUMENT NUMBER: 140:321699
TITLE: Novel Gly building units for backbone cyclization: synthesis and incorporation into model peptides
AUTHOR(S): Gazal, Sharon; Gellerman, Gary; Gilon, Chaim
CORPORATE SOURCE: Department of Organic Chemistry, Hebrew University of Jerusalem, Jerusalem, 91904, Israel
SOURCE: Peptides (New York, NY, United States) (2003), 24(12), 1847-1852
CODEN: PPTDD5; ISSN: 0196-9781
PUBLISHER: Elsevier Science Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We report the preparation of novel building units for backbone cyclization that have the general formula Fmoc-Nα[CH(R)CO2Al]Gly-OH (Fmoc = 9-fluorenylmethyloxycarbonyl). These building units were prepared by the reductive alkylation method using allyl esters of several amino acids as starting material and hence, resp., contain the side chain of these amino acids. These N-alkylated Gly building units were incorporated in model backbone cyclic peptides. The resulting crude backbone cyclic peptides were obtained in high degree of purity according to HPLC and mass spectrometric analyses.

CC 34-3 (Amino Acids, Peptides, and Proteins)

IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; solid phase synthesis of **cyclic** peptides via backbone cyclization of incorporated prepared glycine building units)

IT **Solid phase synthesis**
(peptide; solid phase synthesis of cyclic peptides via backbone cyclization of incorporated prepared glycine building units)

IT **Cyclization**
(solid phase synthesis of cyclic peptides via backbone cyclization of incorporated prepared glycine building units)

IT **679417-79-9P 679417-80-2P 679417-81-3P**

679417-82-4P 679417-83-5P 679417-84-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(solid phase synthesis of cyclic peptides via backbone cyclization of incorporated prepared glycine building units)
REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 7 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2004:74770 HCAPLUS
DOCUMENT NUMBER: 140:287697
TITLE: An efficient approach for monosulfide bridge formation in solid-phase peptide synthesis
AUTHOR(S): Campiglia, Pietro; Gomez-Monterrey, Isabel; Longobardo, Luigi; Lama, Teresa; Novellino, Ettore; Grieco, Paolo
CORPORATE SOURCE: Dipartimento di Chimica Farmaceutica e Tossicologica, University of Naples "Federico II", Naples, 80131, Italy
SOURCE: Tetrahedron Letters (2004), 45(7), 1453-1456
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB An efficient approach for the synthesis of cyclic peptides containing unnatural thioether side-chain bridges, based on the use of (2S)-9-fluorenylmethyl-2-[(tert-butoxycarbonyl)amino]-4-iodobutanoate and its homolog 5-iodopentanoate, derived from Boc-L-Asp-OFm and Boc-L-Glu-OFm (Boc = tert-butoxycarbonyl, Fm = 9-fluorenylmethyl), resp., is reported. The synthesis was performed by a tandem combination of solid-phase peptide synthesis and microwave-assisted cyclization strategy.
CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 28
IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; preparation of **cyclic** peptides by combination of solid-phase peptide synthesis, thioalkylation with iodobutanoate, or iodopentanoate, and microwave-assisted macrocyclization)
IT **Solid phase synthesis**
(peptide; preparation of cyclic peptides by combination of solid-phase peptide synthesis, thioalkylation with iodobutanoate, or iodopentanoate, and microwave-assisted macrocyclization)
IT **Macrocyclization**
Microwave
(preparation of cyclic peptides by combination of solid-phase peptide synthesis, thioalkylation with iodobutanoate, or iodopentanoate, and microwave-assisted macrocyclization)
IT **675609-84-4P 675609-85-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of cyclic peptides by combination of solid-phase peptide synthesis, thioalkylation with iodobutanoate, or iodopentanoate, and microwave-assisted macrocyclization)
IT **251293-28-4DP**, Urotensin-II, analogs
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of urotensin-II analogs by combination of solid-phase peptide synthesis, thioalkylation with iodobutanoate, or iodopentanoate, and microwave-assisted macrocyclization)
REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 8 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2004:40017 HCAPLUS
DOCUMENT NUMBER: 140:339613
TITLE: Synthesis of cyclic peptides through hydroxyl side-chain anchoring
AUTHOR(S): Yan, Liang Z.; Edwards, Patrick; Flora, David; Mayer, John P.
CORPORATE SOURCE: A Division of Eli Lilly and Company, Lilly Research Laboratories, Lilly Corporate Center, Indianapolis, IN, 46285, USA
SOURCE: Tetrahedron Letters (2004), 45(5), 923-925
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A general method was developed for the synthesis of serine- or threonine-containing cyclic peptides utilizing the β-hydroxyl side-chain of these residues as an anchor point to Wang resin. The peptide chain with an allyl ester at C-terminus was assembled by conventional Fmoc/t-Bu solid-phase chemical The next steps were palladium-catalyzed removal of the allyl ester and on-resin cyclization. Stylostatin, cyclic heptapeptide cyclo(Leu-Ala-Ile-Pro-Phe-Asn-Ser), was thus prepared
CC 34-3 (Amino Acids, Peptides, and Proteins)
IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; solid-phase preparation of a serine-containing peptide with hydroxyl side-chain anchoring to Wang resin, and comparisons of peptide cyclization in both solution- and solid-phases)
IT **Solid phase synthesis**
(peptide; solid-phase preparation of a serine-containing peptide with hydroxyl
side-chain anchoring to Wang resin, and comparisons of peptide cyclization in both solution- and solid-phases)
IT **Cyclization**
(solid-phase preparation of a serine-containing peptide with hydroxyl side-chain
anchoring to Wang resin, and comparisons of peptide cyclization in both solution- and solid-phases)
IT **145190-76-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(solid-phase preparation of a serine-containing peptide with hydroxyl side-chain
anchoring to Wang resin, and comparisons of peptide cyclization in both solution- and solid-phases)
REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 9 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:1002705 HCAPLUS
DOCUMENT NUMBER: 140:199732
TITLE: Synthesis, conformation, and immunosuppressive activity of CLX and its analogs
AUTHOR(S): Ruchala, P.; Picur, B.; Lisowski, M.; Cierpicki, T.; Wieczorek, Z.; Siemion, I. Z.
CORPORATE SOURCE: Faculty of Chemistry, University of Wroclaw, Wroclaw, 50-383, Pol.
SOURCE: Biopolymers (2003), 70(4), 497-511
CODEN: BIPMAA; ISSN: 0006-3525
PUBLISHER: John Wiley & Sons, Inc.

DOCUMENT TYPE: Journal
LANGUAGE: English

AB The CLX peptide isolated from flax seed has a sequence cyclo-(PPFFILLX), where X is a nonproteinaceous amino acid residue, (2S,4R) 4-amine-N-methylproline (Picur at al., 1998). The structure of X strongly suggests that this natural amino acid plays a role of the dipeptide moiety with a nonplanar cis peptidomimetic bond. The X residue contains two asym. carbons and thus can appear in four configurations: (2S,4R), (2S,4S), (2R,4S), and (2R,4R). All four diastereoisomers of X were synthesized and characterized as trifluoroacetates of 4-phthalimido-N-methylproline benzylamides. Their full physicochem. characteristics are presented in this article. The synthesis of linear and cyclic analogs of CLX containing all four possible diastereoisomers of X was performed. Addnl., analogs with γ-aminobutyric acid (GABA) and glycyl-N-methyl-glycine dipeptide [G(Me)G] substituted for X were synthesized. The obtained peptides were purified using HPLC, examined by ESI/MS, and then studied by CD spectroscopy. They were also tested for immunosuppressive activity (PFC in vitro). All of them revealed diverse immunosuppressive activity, however, lower than that of cyclolinopeptide A (CLA) (Wieczorek at al., 1988). The structure of CLX with (2S,4R) 4-amino-N-methylproline was determined by 2-D NMR methods. All amide bonds are in the trans configuration. The cis peptidomimetic group δ-CH2-N(CH3)- is exposed to the outside of the CLX mol. The peptide contains two loops similar to β-turns of type IV (Chou at al., 1977) and has the extended shape flanked by F3 and L7 residues with significant side chain flexibility.

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 2, 11, 22

IT **Peptides, preparation**
RL: BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**
(**cyclic**; synthesis, conformation, and immunosuppressive activity of CLX-peptide and its analogs)

IT **Solid phase synthesis**
(peptide; solid phase peptide synthesis, conformation, and immunosuppressive activity of CLX-peptide isolated from flax seed and its analogs)

IT **Cyclization**
(synthesis on solid phase, following by cyclization of CLX-peptide and its analogs)

IT 660838-16-4P 660838-17-5P 660838-18-6P 660838-19-7P 660838-20-0P 660838-21-1P **660838-22-2P 660838-23-3P**
662117-93-3P, (2S,4S)-Cyclolinopeptide X **662117-94-4P**, (2R,4S)-Cyclolinopeptide X **662117-95-5P**, (2R,4R)-Cyclolinopeptide X
RL: BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(synthesis, conformation, and immunosuppressive activity of CLX-peptide and its analogs)

IT **662117-96-6P**, Cyclolinopeptide X sodium complex
RL: BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(synthesis, conformation, and immunosuppressive activity of CLX-peptide isolated from flax seed and its analogs)

IT **212306-72-4P**, Cyclolinopeptide X
RL: BSU (Biological study, unclassified); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
(synthesis, conformation, and immunosuppressive activity of CLX-peptide

isolated from flax seed and its analogs)
REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 10 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:937701 HCAPLUS
DOCUMENT NUMBER: 140:111682
TITLE: Solid-Phase Synthesis of the Cyclic Peptide Portion of Chlorofusin, an Inhibitor of p53-MDM2 Interactions
AUTHOR(S): Malkinson, John P.; Zloh, Mire; Kadom, Mohanad; Errington, Rachel; Smith, Paul J.; Searcey, Mark
CORPORATE SOURCE: Department of Pharmaceutical and Biological Chemistry School of Pharmacy, University of London, London, WC1N 1AX, UK
SOURCE: Organic Letters (2003), 5(26), 5051-5054
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The first solid-phase synthesis of the chlorofusin peptide I is described. The synthesis involved side-chain immobilization of Fmoc-Asp-ODmab [Dmab = 4{[1-(4,4-dimethyl-2,6-dioxocyclohexylidene)-3-methylbutyl]amino}benzyl]. Synthesis of the linear peptide, initially incorporating racemic DL-Ade8 (Ade = 2-aminodecanoic acid) and an unsubstituted ornithine in place of the chromophore-bearing residue, was followed by solid-phase cyclization, resin cleavage and deprotections to afford a mixture of diastereomers D-I and L-I. Resynthesis identified (by HPLC) the second isomer (D-I) as analogous to the natural product. Initial biol. assays, using an immunofluorescence method, suggest that the compds. are not cytotoxic but they do not inhibit the p53/mdm2 interaction.
CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 6
IT **Peptides, preparation**
RL: BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**
(**cyclic**; solid-phase synthesis and conformation of chlorofusin **cyclic** peptide and its biol. activity towards p53/mdm2 interaction)
IT **Solid phase synthesis**
(peptide; solid-phase synthesis and conformation of chlorofusin cyclic peptide and its biol. activity towards p53/mdm2 interaction)
IT Conformation
Cyclization
(solid-phase synthesis and conformation of chlorofusin cyclic peptide and its biol. activity towards p53/mdm2 interaction)
IT **647014-71-9P 647014-72-0P**
RL: BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(solid-phase synthesis and conformation of chlorofusin cyclic peptide and its biol. activity towards p53/mdm2 interaction)
IT **329363-06-6**, Chlorofusin
RL: MSC (Miscellaneous)
(solid-phase synthesis and conformation of chlorofusin cyclic peptide and its biol. activity towards p53/mdm2 interaction)
REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 11 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:929126 HCAPLUS

DOCUMENT NUMBER: 140:146496
TITLE: Synthesis, structural aspects and cytotoxicity of the natural cyclopeptides yunnanins A, C and phakellistatins 1, 10
AUTHOR(S): Napolitano, Assunta; Rodriquez, Manuela; Bruno, Ines; Marzocco, Stefania; Autore, Giuseppina; Riccio, Raffaele; Gomez-Paloma, Luigi
CORPORATE SOURCE: Dipartimento di Scienze Farmaceutiche, Universita di Salerno, Fisciano (SA), 84084, Italy
SOURCE: Tetrahedron (2003), 59(51), 10203-10211
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Yunnanins A and C, two cyclic heptapeptides occurring in the roots of Stellaria yunnanensis, and phakellistatins 1 and 10, a hepta- and an octacyclopeptide first isolated from marine sponges of the genus Phakellia, were efficiently synthesized using a combination of solid and solution-phase techniques. Structural anal. on the synthetic members of the yunnanin series showed that the synthetic sample of yunnanin A exhibited a configurational pattern at the Pro peptide linkages identical to the natural product (trans-Pro3, trans-Pro5), while yunnanin C was obtained as a complex mixture of geometric/conformational isomers; the major isomer (trans-Pro3) was indistinguishable from the natural cyclopeptide and co-occurred along with lower amts. of a mixture (1:1 ratio) of two different rotamers, both displaying cis geometry at the Pro3 linkage. In the phakellistatin series, the synthetic phakellistatin 1 (determined as cis-Pro1, cis-Pro3, cis-Pro5) was identical to the natural one, while two different isomeric products of phakellistatin 10 could be obtained: a major one (trans-Pro1, trans-Pro4, trans-Pro6) showing spectral properties superimposable with the natural metabolite, and a minor geometric isomer of the natural cyclopeptide. Interestingly, the synthetic cyclopeptides, although found to be chemical identical with their natural counterparts, did not display the same biol. properties (in vitro cytotoxicity against a panel of cancer cell lines), leaving presently open the question whether or not the potent bioactivity reported in the literature should really be attributed to these natural cyclic peptides.

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 1, 12, 22

IT **Peptides, preparation**
RL: BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PYP (Physical process); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**; PROC (Process)
(**cyclic**; synthesis and cytotoxic structure-activity relationship of natural cyclopeptides yunnanins A, C and phakellistatins 1, 10)

IT **Solid phase synthesis**
(peptide; solid phase synthesis and cytotoxic structure-activity relationship of natural cyclopeptides yunnanins A, C and phakellistatins 1, 10)

IT **Cyclization**
(solid phase synthesis, followed by cyclization, and cytotoxic structure-activity relationship of natural cyclopeptides yunnanins A, C and phakellistatins 1, 10)

IT **156281-00-4P**, Phakellistatin 10 **173075-41-7P**, Yunnanin C
RL: BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PYP (Physical process); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)
(synthesis and cytotoxic structure-activity relationship of natural

cyclopeptides yunnanins A, C and phakellistatins 1, 10)

IT **147395-10-6P**, Phakellistatin 1 **160701-42-8P**, Yunnanin A
RL: BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(synthesis and cytotoxic structure-activity relationship of natural cyclopeptides yunnanins A, C and phakellistatins 1, 10)

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 12 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:922776 HCAPLUS
DOCUMENT NUMBER: 140:111676
TITLE: Constrained Derivatives of Stylostatin 1. 1. Synthesis and Biological Evaluation as Potential Anticancer Agents
AUTHOR(S): Forns, Pilar; Piro, Jordi; Cuevas, Carmen; Garcia, Monica; Rubiralta, Mario; Giralt, Ernest; Diez, Anna
CORPORATE SOURCE: Laboratori de Quimica Organica, Facultat de Farmacia, Universitat de Barcelona, Barcelona, 08028, Spain
SOURCE: Journal of Medicinal Chemistry (2003), 46(26), 5825-5833
CODEN: JMCMAR; ISSN: 0022-2623
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Hydroxyaminolactam I has been used as a constrained surrogate for Ser-Leu in the synthesis of analogs of the cycloheptapeptide stylostatin 1, cyclo(Pro-Phe-Asn-Ser-Leu-Ala-Ile). The rate of cyclization through formation of the Ile-Pro amide bond allowed the authors to prove that I induced a turn in the linear precursor. Ring closure at the Pro-Phe amide bond was much quicker and provided access to larger amts. of the target structures, with high purity. The conformation of ψ-stylostatin derivative II (Xaa = L-Ile) was compared to that of native stylostatin 1 using NMR anal. Inhibition of the growth of cancer cell lines was evaluated for II (Xaa = L-Ile, D-allo-Ile) and for epi-stylostatin, cyclo(Pro-Phe-Asn-Ser-Leu-Ala-D-allo-Ile), and the results were compared to that of the native stylostatin 1. None of the compds. showed activity below 1 μM. A possible relationship between the decrease in activity and the presence of the piperidone Ser-Leu surrogate is considered.

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 1, 22

IT **Peptides, preparation**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**
(**cyclic**; preparation, conformation and biol. evaluation of constrained derivs. of **cyclic** peptide stylostatin-1 as potential anticancer agents)

IT **Solid phase synthesis**
(peptide; preparation, conformation and biol. evaluation of constrained derivs. of cyclic peptide stylostatin-1 as potential anticancer agents)

IT Antitumor agents
Conformation
Cyclization
Leukemia
Melanoma
Ovary, neoplasm
Pancreas, neoplasm
Prostate gland, neoplasm
(preparation, conformation and biol. evaluation of constrained derivs. of

cyclic peptide stylostatin-1 as potential anticancer agents)
IT **145190-76-7P 646057-86-5P 646057-87-6P 646533-89-3P**, epi-Stylostatin-1
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation, conformation and biol. evaluation of constrained derivs. of cyclic peptide stylostatin-1 as potential anticancer agents)
IT 224824-97-9P 646057-70-7P 646057-74-1P 646057-78-5P 646057-80-9P 646057-83-2P **646057-84-3P 646057-85-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation, conformation and biol. evaluation of constrained derivs. of cyclic peptide stylostatin-1 as potential anticancer agents)
REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 13 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:917219 HCAPLUS
DOCUMENT NUMBER: 140:164209
TITLE: Rapid and efficient methodology to perform macrocyclization reactions in solid-phase peptide chemistry
AUTHOR(S): Grieco, Paolo; Campiglia, Pietro; Gomez-monterrey, Isabel; Lama, Teresa; Novellino, Ettore
CORPORATE SOURCE: Dipartimento di Chimica Farmaceutica e Tossicologica, University of Naples "Federico II", Naples, 80131, Italy
SOURCE: Synlett (2003), (14), 2216-2218
CODEN: SYNLES; ISSN: 0936-5214
PUBLISHER: Georg Thieme Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A modification of classical solid phase peptide synthesis methodol. under microwave irradiation was investigated. To illustrate the synthetic method a number of Urotensin-II analogs containing 2-fluoro-5-nitrobenzoic acid were prepared A clear improvement in yield and reaction time using microwave heating in comparison with conventional thermal heating were observed
CC 34-3 (Amino Acids, Peptides, and Proteins)
IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; preparation of **cyclic** peptides by one pot solid phase macrocyclization under microwave irradiation)
IT **Solid phase synthesis**
(peptide; preparation of cyclic peptides by one pot solid phase macrocyclization under microwave irradiation)
IT **Macrocyclization**
(preparation of cyclic peptides by one pot solid phase macrocyclization under microwave irradiation)
IT **251293-28-4DP**, Urotensin-II, analogs **655230-31-2P 655230-33-4P 655230-35-6P 655230-37-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of cyclic peptides by one pot solid phase macrocyclization under microwave irradiation)
REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 14 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:755787 HCAPLUS
DOCUMENT NUMBER: 140:253873

TITLE: Biomimetic studies on the mechanism of stereoselective lanthionine formation

AUTHOR(S): Zhu, Yantao; Gieselman, Matt D.; Zhou, Hao; Averin, Olga; van der Donk, Wilfred A.

CORPORATE SOURCE: Department of Chemistry, University of Illinois at Urbana-Champaign, Urbana, IL, 61801, USA

SOURCE: Organic & Biomolecular Chemistry (2003), 1(19), 3304-3315
CODEN: OBCRAK; ISSN: 1477-0520

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Selenocysteine derivs. are useful precursors for the synthesis of peptide conjugates and selenopeptides. Several diastereomers of Fmoc-3-methyl-Se-phenylselenocysteine [FmocMeSec(Ph)] were prepared and used in solid phase peptide synthesis (SPPS). Once incorporated into peptides, the phenylselenide functionality provides a useful handle for the site and stereospecific introduction of E- or Z-dehydrobutyrine residues into peptide chains via oxidative elimination. The oxidation conditions are mild, can be performed on a solid support, and tolerate functionalities commonly found in peptides, including variously protected cysteine residues. Dehydropeptides containing unprotected cysteine residues undergo intramol. stereoselective conjugate addition to afford cyclic lanthionines and methyllanthionines, which have the same stereochem. as found in lantibiotics, a family of ribosomally synthesized and post-translationally modified peptide antibiotics. The observed stereoselectivity is shown to originate from a kinetic rather than a thermodn. preference.

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 1, 22

IT **Peptides, preparation**
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(**cyclic**; preparation of dehydrobutyrine-containing peptides in synthesis of **cyclic** lanthionines and methyllanthionines)

IT **Solid phase synthesis**
(peptide; preparation of dehydrobutyrine-containing peptides in synthesis of cyclic lanthionines and methyllanthionines)

IT Amino acids, preparation
Peptides, preparation
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(preparation of dehydrobutyrine-containing peptides in synthesis of **cyclic** lanthionines and methyllanthionines)

IT **Cyclization**
(stereoselective; intramol. stereoselective conjugate addition if dehydropeptides to cyclic lanthionines)

IT 158022-23-2P 312746-42-2P 312746-44-4P 425399-84-4P 425399-85-5P
425400-00-6P 669088-94-2P 669088-95-3P 669088-96-4P 669088-98-6P
669088-99-7P 669089-02-5P 669089-04-7P 669089-05-8DP, resin-bound
669089-07-0DP, resin-bound 669089-08-1P 669089-10-5P 669089-11-6P
669089-13-8P **669089-14-9P** 669089-16-1P 669089-17-2P
669089-18-3P 669089-19-4P 669089-20-7P 669089-21-8P 669089-22-9P
669089-23-0P 669089-25-2P 669089-28-5P 669089-29-6P 669089-30-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of dehydrobutyrine-containing peptides in synthesis of cyclic lanthionines and methyllanthionines)

IT 312746-43-3P 312746-45-5P 340701-33-9P 340701-46-4P 425399-86-6P
425399-90-2P 425399-92-4P 425399-93-5P 425399-99-1P 669089-00-3P

669089-05-8P 669089-06-9P **669089-12-7P 669089-15-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of dehydrobutyrine-containing peptides in synthesis of cyclic lanthionines and methyllanthionines)
REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 15 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:692246 HCAPLUS
DOCUMENT NUMBER: 139:338178
TITLE: Solid phase synthesis of vancomycin mimics
AUTHOR(S): Arnusch, Christopher J.; Pieters, Roland J.
CORPORATE SOURCE: Department of Medicinal Chemistry, Utrecht Institute of Pharmaceutical Sciences, Utrecht University, Utrecht, 3508 TB, Neth.
SOURCE: European Journal of Organic Chemistry (2003), (16), 3131-3138
CODEN: EJOCFK; ISSN: 1434-193X
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A solid phase synthesis of a model system of the DE ring system of vancomycin is described. The synthesis involved biocatalytic resolns. of unnatural amino acids, is compatible with conventional solid phase peptide synthesis and contains as the key step: an on-bead SNAr cyclization. Binding of a cyclic peptide to the carboxylate of N-Ac-D-Ala was demonstrated.
CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 1, 69
IT **Peptides, preparation**
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PYP (Physical process); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; PROC (Process); RACT (Reactant or reagent); USES (Uses)
(**cyclic**; synthesis of vancomycin mimics by biocatalytic resolns. of prepared unnatural amino acids, followed by cyclization on solid phase)
IT **Solid phase synthesis**
(peptide; synthesis of vancomycin mimics by biocatalytic resolns. of prepared unnatural amino acids, followed by cyclization on solid phase)
IT **Cyclization**
Peptidomimetics
(synthesis of vancomycin mimics by biocatalytic resolns. of prepared unnatural amino acids, followed by cyclization on solid phase)
IT **1404-90-6DP**, Vancomycin, mimics
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PYP (Physical process); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(synthesis of vancomycin mimics by biocatalytic resolns. of prepared unnatural amino acids, followed by cyclization on solid phase)
REFERENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 16 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:537697 HCAPLUS
DOCUMENT NUMBER: 139:292473
TITLE: Bicyclic Homodetic Peptide Libraries: Comparison of

Synthetic Strategies for Their Solid-Phase Synthesis
AUTHOR(S): Teixido, Meritxell; Altamura, Maria; Quartara, Laura; Giolitti, Alessandro; Maggi, Carlo Alberto; Giralt, Ernest; Albericio, Fernando
CORPORATE SOURCE: Department of Organic Chemistry, University of Barcelona, Barcelona, 08028, Spain
SOURCE: Journal of Combinatorial Chemistry (2003), 5(6), 760-768
CODEN: JCCHFF; ISSN: 1520-4766
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Preliminary studies and synthesis development for the preparation of a bicyclic homodetic peptide library have been carried out using orthogonal protection schemes. The best results have been obtained using two Fmoc/tBu-based strategies, in which the first cycle is carried out in the solid phase through side chain functional groups previously protected with Aloc/Al groups. The second cycle is performed either in the solid phase, which requires side-chain anchoring of a trifunctional amino acid and Dmb protection for the C-terminus carboxyl group, or in solution, which requires the use of highly labile resins, such as the 2-chlorotrityl (Barlos) resin. Only when the cycles are formed in a ziplike manner, i.e., first the small cycle and then the larger ring, is the desired final product obtained.

CC 34-3 (Amino Acids, Peptides, and Proteins)

IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; solid-phase synthesis with orthogonal protection strategies of bicyclic homodetic peptide analogs of Men-10627)

IT **Solid phase synthesis**
(peptide; solid-phase synthesis with orthogonal protection strategies of bicyclic homodetic peptide analogs of Men-10627)

IT **Cyclization**
Peptide library
Protective groups
(solid-phase synthesis with orthogonal protection strategies of bicyclic homodetic peptide analogs of Men-10627)

IT **157351-81-0P 595567-58-1P 595567-62-7P**
595567-66-1P 595567-69-4P 595567-70-7P
595567-71-8P 595567-72-9P 595567-73-0P
595567-74-1P 595567-75-2P 595567-76-3P
595567-77-4P 595567-78-5P 595567-79-6P
595567-80-9P 595567-81-0P 595567-82-1P
595567-83-2P 595567-84-3P 595567-85-4P
595567-86-5P 595567-87-6P 595567-88-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(solid-phase synthesis with orthogonal protection strategies of bicyclic homodetic peptide analogs of Men-10627)

REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 17 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:521316 HCAPLUS
DOCUMENT NUMBER: 139:277145
TITLE: Side-chain-to-tail thiolactone peptide inhibitors of the staphylococcal quorum-sensing system
AUTHOR(S): Scott, R. John; Lian, Lu-Yun; Muharram, S. Hanna; Cockayne, Alan; Wood, Stewart J.; Bycroft, Barrie W.; Williams, Paul; Chan, Weng C.

CORPORATE SOURCE: School of Pharmaceutical Sciences, University of Nottingham, Nottingham, NG7 2RD, UK
SOURCE: Bioorganic & Medicinal Chemistry Letters (2003), 13(15), 2449-2453
CODEN: BMCLE8; ISSN: 0960-894X
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 139:277145

AB The expression of many staphylococcal virulence factors are regulated by the agr locus via a two-component signal transduction system (TCSTS), which is activated in response to a secreted autoinducer peptide (AIP). By exploiting the unique chemical architecture of the naturally occurring AIP-1, several potent inhibitors of staphylococcal TCSTS were designed and synthesized using either a linear or branched solid-phase approach. These prepared inhibitors I [R1 = CH(NH2)(S)-CH24-C6H4OH, R2 = Me, or CH2Me; R1 = (CH2)3OC6H4CH2Ph, or (CH2)3OC6H4COPh, R2 = Me] are competitive binders and contain the crucial 16-membered side-chain-to-tail thiolactone peptide pharmacophore.

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 1, 10, 28

IT **Peptides, preparation**
RL: BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**; RACT (Reactant or reagent)
(**cyclic**; solid-phase synthesis, followed by macrocyclization of peptides containing thiolactone pharmacophore as staphylococcal signal transduction system inhibitors)

IT **Solid phase synthesis**
(peptide; solid-phase synthesis, followed by macrocyclization of peptides containing thiolactone pharmacophore as staphylococcal signal transduction system inhibitors)

IT **Macrocyclization**
Pharmacophores
Staphylococcus aureus
(solid-phase synthesis, followed by macrocyclization of peptides containing thiolactone pharmacophore as staphylococcal signal transduction system inhibitors)

IT **460325-11-5P 604809-65-6P 604809-66-7P 604809-67-8P**
RL: BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(solid-phase synthesis, followed by macrocyclization of peptides containing thiolactone pharmacophore as staphylococcal signal transduction system inhibitors)

IT 604809-68-9P 604809-69-0P 604809-70-3P 604809-71-4DP, resin-bound **604809-72-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(solid-phase synthesis, followed by macrocyclization of peptides containing thiolactone pharmacophore as staphylococcal signal transduction system inhibitors)

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 18 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:509785 HCAPLUS
DOCUMENT NUMBER: 140:164189
TITLE: Cyclolinopeptide A analogues containing

N-benzylglycine as a peptoid building block
AUTHOR(S): Leplawy, Miroslaw T.; Zubrzak, Pawel; Olejniczak, Bogdan; Paneth, Piotr; Smoluch, Marek; Silberring, Jerzy; Kowalski, Marek L.; Szkudlinska, Barbara; Grochulska, Ewa; Zabrocki, Janusz
CORPORATE SOURCE: Institute of Organic Chemistry, Technical University, Lodz, 90-924, Pol.
SOURCE: Peptides 2000, Proceedings of the European Peptide Symposium, 26th, Montpellier, France, Sept. 10-15, 2000 (2001), Meeting Date 2000, 859-860. Editor(s): Martinez, Jean; Fehrentz, Jean-Alain. Editions EDK: Paris, Fr.
CODEN: 69EDWK; ISBN: 2-84254-048-4
DOCUMENT TYPE: Conference
LANGUAGE: English
AB A symposium report. Linear and cyclic cyclolinopeptide A analogs containing benzylglycine in positions 8 and 9 were synthesized by SPPS technique, followed by cyclization. Four compds. were tested for immunosuppressive activity. Conformational search for studied peptides was carried out using random variation of four dihedral angles using MM+ and Amber 6 force fields.
CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 15, 22
IT **Solid phase synthesis**
(peptide; solid phase synthesis of linear and cyclic cyclolinopeptide A analogs, their immunosuppressive activity and conformation)
IT Conformation
Cyclization
Immunosuppressants
Simulation and Modeling, physicochemical
(solid phase synthesis of linear and cyclic cyclolinopeptide A analogs, their immunosuppressive activity and conformation)
IT **Peptides, preparation**
RL: BSU (Biological study, unclassified); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**; RACT (Reactant or reagent)
(solid phase synthesis of linear and **cyclic** cyclolinopeptide A analogs, their immunosuppressive activity and conformation)
IT **33302-55-5DP**, Cyclolinopeptide A, analogs 655251-37-9P
655251-39-1P
RL: BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(solid phase synthesis of linear and cyclic cyclolinopeptide A analogs, their immunosuppressive activity and conformation)
IT **655251-38-0P**
RL: BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(solid phase synthesis of linear and cyclic cyclolinopeptide A analogs, their immunosuppressive activity and conformation)
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 19 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:509768 HCAPLUS
DOCUMENT NUMBER: 140:164184
TITLE: Mimetics of dipeptide moiety with nonplanar cis-amide bond
AUTHOR(S): Krajewski, Krzysztof; Ciunik, Zbigniew; Siemion, Ignacy Z.

CORPORATE SOURCE: Faculty of Chemistry, Wroclaw University, Wroclaw, 50-383, Pol.
SOURCE: Peptides 2000, Proceedings of the European Peptide Symposium, 26th, Montpellier, France, Sept. 10-15, 2000 (2001), Meeting Date 2000, 825-826. Editor(s): Martinez, Jean; Fehrentz, Jean-Alain. Editions EDK: Paris, Fr.
CODEN: 69EDWK; ISBN: 2-84254-048-4
DOCUMENT TYPE: Conference
LANGUAGE: English

AB A symposium report. Stereoisomers of 4-amino-3-hydroxy-1-cyclohexane carboxylic acid and 4-amino-3-oxo-1-cyclohexane carboxylic acids were designed as new peptidomimetics using for the synthesis of analogs of cyclinopeptide A [c-(Phe-Phe-Leu-Ile-Ile-Leu-Val-Pro-Pro)]. The analogs of CLA were synthesized by coupling of prepared peptide mimics with hexapeptide on the solid phase using Boc (Boc = tert-butoxycarbonyl) strategy. All of the analogs possess immunosuppressive activity but lower than the activity of cyclinopeptide A.

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 15

IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; solid phase synthesis of cyclinopeptide A analogs containing aminohydroxycyclohexane and aminooxocyclohexane carboxylic acids as peptidomimetics with immunosuppressive activity)

IT **Solid phase synthesis**
(peptide; solid phase synthesis of cyclinopeptide A analogs containing aminohydroxycyclohexane and aminooxocyclohexane carboxylic acids as peptidomimetics with immunosuppressive activity)

IT **Cyclization**
(synthesis of cyclinopeptide A analogs containing aminohydroxycyclohexane and aminooxocyclohexane carboxylic acids by solid phase synthesis, followed by cyclization)

IT **33302-55-5DP**, analogs **349494-58-2P 349494-59-3P**
RL: BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
(solid phase synthesis of cyclinopeptide A analogs containing aminohydroxycyclohexane and aminooxocyclohexane carboxylic acids as peptidomimetics with immunosuppressive activity)

IT **349494-60-6P 349494-61-7P**
RL: BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(solid phase synthesis of cyclinopeptide A analogs containing aminohydroxycyclohexane and aminooxocyclohexane carboxylic acids as peptidomimetics with immunosuppressive activity)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 20 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:509439 HCAPLUS
DOCUMENT NUMBER: 140:218004
TITLE: Evaluation of ring closing metathesis (RCM) reactions for the preparation of peptide cyclic esters in the solid phase
AUTHOR(S): Srinivasan, Ananth; Wilhelm, R. Randy; Schmidt, Michelle A.
CORPORATE SOURCE: Mallinckrodt, Inc., Hazelwood, MO, 63042, USA
SOURCE: Peptides 2000, Proceedings of the European Peptide

Symposium, 26th, Montpellier, France, Sept. 10-15, 2000 (2001), Meeting Date 2000, 163-164. Editor(s): Martinez, Jean; Fehrentz, Jean-Alain. Editions EDK: Paris, Fr.
CODEN: 69EDWK; ISBN: 2-84254-048-4
DOCUMENT TYPE: Conference
LANGUAGE: English
AB A symposium report. When resin-bound, protected peptides (0.18 mmol/g loading) were subjected to the metathesis reaction in the presence of Grubbs' catalyst, the corresponding cyclic allyl esters were obtained in high yield, accompanied by the formation of an intermol. cross metathesis product. Catalytic reduction of the allyl ester resulted in ring cleavage providing the undesired linear peptide. When resin-bound, cyclic allyl ester were treated with p-fluorophenylhydrazine in DMF at 75°, the corresponding saturated cyclic esters were obtained in near quant. yield.
CC 34-3 (Amino Acids, Peptides, and Proteins)
IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(esters; solid-phase synthesis of peptide **cyclic** esters by ring closing metathesis)
IT **Cyclization**
(metathesis; solid-phase synthesis of peptide cyclic esters by ring closing metathesis)
IT **Solid phase synthesis**
(peptide; solid-phase synthesis of peptide cyclic esters by ring closing metathesis)
IT **664998-40-7P 664998-41-8P 664998-42-9P 664998-43-0P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(solid-phase synthesis of peptide cyclic esters by ring closing metathesis)
IT **664998-46-3P 664998-47-4P 664998-48-5P 664998-62-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(solid-phase synthesis of peptide cyclic esters by ring closing metathesis)
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 21 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:497507 HCAPLUS
DOCUMENT NUMBER: 139:246199
TITLE: Synthesis and Characterization of a Macrocyclic Near-Infrared Optical Scaffold
AUTHOR(S): Ye, Yunpeng; Li, Wen Ping; Anderson, Carolyn J.; Kao, Jeffery; Nikiforovich, Gregory V.; Achilefu, Samuel
CORPORATE SOURCE: Department of Radiology, Washington University, St. Louis, MO, 63110, USA
SOURCE: Journal of the American Chemical Society (2003), 125(26), 7766-7767
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 139:246199
AB The authors report the synthesis of NIR (near-IR) fluorescent macrocyclic peptide I, whose sequence was derived from a somatostatin-binding octapeptide, octreotate. NMR, UV-vis, fluorescence spectra, conformation

calcns., and receptor binding assays were performed for I.
CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 2, 22
IT **Peptides, preparation**
RL: BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**
(**cyclic**; preparation, UV-vis spectra, conformation anal. and receptor binding activity of a near-IR fluorescent macrocyclic peptide)
IT **Solid phase synthesis**
(peptide; preparation, UV-vis spectra, conformation anal. and receptor binding activity of a near-IR fluorescent macrocyclic peptide)
IT Conformation
Fluorescent substances
Macrocyclization
Molecular modeling
(preparation, UV-vis spectra, conformation anal. and receptor binding activity of a near-IR fluorescent macrocyclic peptide)
IT **596130-05-1**
RL: PRP (Properties)
(conformation calcns. of, for comparisons with dye-labeled octreotate derivative)
IT **112209-46-8**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(preparation, UV-vis spectra, conformation anal. and receptor binding activity of a near-IR fluorescent macrocyclic peptide)
IT **596130-00-6P**
RL: BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation, UV-vis spectra, conformation anal. and receptor binding activity of a near-IR fluorescent macrocyclic peptide)
IT **596129-97-4P**
RL: BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation, UV-vis spectra, conformation anal. and receptor binding activity of a near-IR fluorescent macrocyclic peptide)
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 22 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:461256 HCAPLUS
DOCUMENT NUMBER: 139:261542
TITLE: Solid-phase approach to the synthesis of cyclen scaffolds from cyclotetrapeptides
AUTHOR(S): Alcaro, Maria C.; Orfei, Marco; Chelli, Mario; Ginanneschi, Mauro; Papini, Anna M.
CORPORATE SOURCE: Dipartimento di Chimica Organica 'Ugo Schiff', CNR-ICCOM, Sesto Fiorentino, I-50019, Italy
SOURCE: Tetrahedron Letters (2003), 44(28), 5217-5219
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 139:261542
AB Cyclen derivs., as coordinating ligands, have recovered considerable interest for the development of diagnostic and therapeutic drugs, mimicking the binding site of metalloproteins. We demonstrate that the on-resin reduction of head-to-tail cyclotetrapeptides, anchored to a solid support by the side-chain of a trifunctional amino acid, is an efficient synthetic strategy. The new cyclen analog scaffold I, containing two

imidazole groups, possesses increased chelating properties, which can be used as coordinating system in metalloproteins characterization.

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 9

IT **Peptides, preparation**
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(**cyclic**; solid-phase synthesis of cyclen scaffolds from cyclotetrapeptides by head-to-tail cyclization, and reduction of amide bonds)

IT **Macrocyclization**
(head-to-tail; solid-phase synthesis of cyclen scaffolds from cyclotetrapeptides by head-to-tail cyclization, and reduction of amide bonds)

IT **Solid phase synthesis**
(peptide; solid-phase synthesis of cyclen scaffolds from cyclotetrapeptides by head-to-tail cyclization, and reduction of amide bonds)

IT 601478-49-3DP, resin-bound **601478-51-7DP**, resin-bound
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(solid-phase synthesis of cyclen scaffolds from cyclotetrapeptides by head-to-tail cyclization, and reduction of amide bonds)

REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 23 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:451000 HCAPLUS
DOCUMENT NUMBER: 139:149919
TITLE: A Chemical Approach to Generate Molecular Diversity Based on the Scaffold of Cyclic Decapeptide Antibiotic Tyrocidine A
AUTHOR(S): Qin, Chuanguang; Bu, Xianzhang; Wu, Xiaoming; Guo, Zhihong
CORPORATE SOURCE: Department of Chemistry and Biotechnology Research Institute, Hong Kong University of Science and Technology, Hong Kong, Peop. Rep. China
SOURCE: Journal of Combinatorial Chemistry (2003), 5(4), 353-355
CODEN: JCCHFF; ISSN: 1520-4766
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Using the knowledge that the linear precursor of the cyclic decapeptide tyrocidine A possesses a conformational preference to self-cyclize, the authors decided to develop a simple and efficient method adaptable to solid-phase synthesis of alanine-substituted analogs of tyrocidine A. The constituent amino acids of tyrocidine A were sequentially substituted by L-alanine, except D-alanine was used to replace D-phenylalanine. The alanine-substituted linear precursors were synthesized and cyclized on solid-phase to give products of high purity. 1H NMR signals of the backbone amide protons of the unchanged amino acids in the cyclic peptide analogs were only slightly altered from those of the wild-type tyrocidine A, indicating that the cyclic peptides possessed a ring structure closely resembling the antiparallel natural product, and that the cyclization of the linear precursors was predominantly head-to-tail with little interference from the unprotected amine or other active side-chain functionalities. These results showed that the side chains of tyrocidine A scaffold have minimal effect on the strong tendency of the linear

precursor to self-cyclize.
CC 34-3 (Amino Acids, Peptides, and Proteins)
IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; solid-phase preparation of alanine-substituted analogs of **cyclic** peptide tyrocidine A to study dependency of peptide cyclization on conformation and amino acid side chains)
IT **Solid phase synthesis**
(peptide; solid-phase preparation of alanine-substituted analogs of cyclic peptide tyrocidine A to study dependency of peptide cyclization on conformation and amino acid side chains)
IT Conformation
Cyclization
(solid-phase preparation of alanine-substituted analogs of cyclic peptide tyrocidine A to study dependency of peptide cyclization on conformation and amino acid side chains)
IT **1481-70-5P**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(solid-phase preparation and antibiotic activity of synthetic tyrocidine A)
IT **484015-19-2P 571202-56-7P 571202-57-8P**
571202-58-9P 571202-59-0P 571202-60-3P
571202-61-4P 571202-62-5P 571202-63-6P
571202-64-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(solid-phase preparation of alanine-substituted analogs of cyclic peptide tyrocidine A to study dependency of peptide cyclization on conformation and amino acid side chains)
REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 24 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:388904 HCAPLUS
DOCUMENT NUMBER: 139:180328
TITLE: Solid-supported synthesis of bicyclic peptides containing three parallel peptide chains
AUTHOR(S): Karskela, Tuomas; Heinonen, Petri; Virta, Pasi; Lonnberg, Harri
CORPORATE SOURCE: Department of Chemistry, University of Turku, Turku, 20014, Finland
SOURCE: European Journal of Organic Chemistry (2003), (9), 1687-1691
CODEN: EJOCFK; ISSN: 1434-193X
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 139:180328
AB Four homodetic bicyclic peptides, containing three parallel peptide chains, were synthesized on a hydroxymethyl-functionalized polystyrene support. α,α-Bis(aminomethyl)-β-alanine, bearing orthogonal protections [Alloc (Alloc = allyloxycarbonyl), Boc (Boc = tert-butoxycarbonyl), Fmoc (Fmoc = 9-fluorenylmethoxycarbonyl)] on the three amino groups (1), was attached to the support through an H2N-Leu-Leu-Gly-OH spacer, and the peptide chains were assembled on the amino groups of 1 by either a stepwise coupling or coupling of a segment, keeping the amino protection within each chain unchanged. N-(4-Allyloxy-4-oxobutanoyl)iminodiacetic acid (2) was then coupled to the Fmoc-protected chain. The Boc protecting group was removed, and the exposed amino group was coupled with the remaining free carboxylic acid

function of 2. Finally, the Alloc and allyl ester protections were removed from the carboxylic and amino functions, and a second cyclization was performed. Release from the support gave bicyclic peptides containing three parallel peptide chains as free carboxylic acids.

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 27

IT **Peptides, preparation**
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(**cyclic**; solid-phase synthesis of bicyclic peptides containing three parallel peptide chains via protection/deprotection, coupling, and cyclization)

IT **Solid phase synthesis**
(peptide; solid-phase synthesis of bicyclic peptides containing three parallel peptide chains via protection/deprotection, coupling, and cyclization)

IT **Cyclization**
Peptide coupling
(solid-phase synthesis of bicyclic peptides containing three parallel peptide chains via protection/deprotection, coupling, and cyclization)

IT 130714-78-2P 579485-54-4P 579485-55-5P 579485-56-6P 579485-57-7P 579485-58-8P **579485-59-9DP**, resin-bound
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(solid-phase synthesis of bicyclic peptides containing three parallel peptide chains via protection/deprotection, coupling, and cyclization)

IT **579485-60-2P 579485-61-3P 579485-62-4P 579485-63-5P 579485-64-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(solid-phase synthesis of bicyclic peptides containing three parallel peptide chains via protection/deprotection, coupling, and cyclization)

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 25 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:382263 HCAPLUS
DOCUMENT NUMBER: 139:101412
TITLE: Chemoenzymatic Route to Macrocyclic Hybrid Peptide/Polyketide-like Molecules
AUTHOR(S): Kohli, Rahul M.; Burke, Martin D.; Tao, Junhua; Walsh, Christopher T.
CORPORATE SOURCE: Department of Biological Chemistry and Molecular Pharmacology, Harvard Medical School, Boston, MA, 02115, USA
SOURCE: Journal of the American Chemical Society (2003), 125(24), 7160-7161
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 139:101412

AB The authors present a chemoenzymic strategy to access the stereochem. and functional diversity found in macrocyclic hybrid natural products in a manner amenable to efficient library synthesis. The method makes use of small building blocks in the form of Fmoc-protected ε-amino acids containing embedded polyketide functionality. The building block approach allows for combinatorial synthesis of linear mols. that can be activated as soluble thioesters or tethered to a solid-phase resin. Thus, peptide/polyketide macrocycles I (20R; 20S) and II (17R, 24R; 17S, 24R;

17R, 24S; 17S, 24S) were synthesized. The authors demonstrate that these linear mols. are substrates for macrocyclization by a tolerant catalyst, TycC TE, derived from a nonribosomal peptide synthetase. The method should allow for access to diverse structures with hybrid peptide-polyketide character that can be screened for improved or novel activities.

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 7

IT **Macrocyclization**
(enzymic; solid-phase preparation and thioesterase-mediated macrocyclization of cyclic peptide/polyketide hybrid mols.)

IT **Solid phase synthesis**
(peptide; solid-phase preparation and thioesterase-mediated macrocyclization of cyclic peptide/polyketide hybrid mols.)

IT **Peptides, preparation**
Polyketides
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(solid-phase preparation and thioesterase-mediated macrocyclization of **cyclic** peptide/polyketide hybrid mols.)

IT **561045-88-3P 561045-89-4P 561045-90-7P 561045-91-8P 561045-92-9P 561045-94-1P**
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(solid-phase preparation and thioesterase-mediated macrocyclization of cyclic peptide/polyketide hybrid mols.)

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 26 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:352517 HCAPLUS
DOCUMENT NUMBER: 139:85639
TITLE: Tentoxin as a Scaffold for Drug Discovery. Total Solid-Phase Synthesis of Tentoxin and a Library of Analogues
AUTHOR(S): Jimenez, Jose C.; Chavarria, Bibiana; Lopez-Macia, Angel; Royo, Miriam; Giralt, Ernest; Albericio, Fernando
CORPORATE SOURCE: Barcelona Biomedical Research Institute and Combinatorial Chemistry Unity Barcelona Science Park, University of Barcelona, Barcelona, 08028, Spain
SOURCE: Organic Letters (2003), 5(12), 2115-2118
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 139:85639

AB Solid-phase synthesis of tentoxin and some of its analogs is accomplished. Two key steps, formation of the α,β-didehydrophenylalanine and its N-alkylation, are carried out while the peptide is anchored to the resin. This methodol. should be applicable to the generation of further libraries based on tentoxin scaffold structure, as well as other structures containing N-alkylated didehydroamino acids.

CC 34-3 (Amino Acids, Peptides, and Proteins)

IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; solid-phase synthesis of N-alkyl (didehydro)phenylalanine-containing **cyclic** peptides as tentoxin and analogs)

IT **Solid phase synthesis**
(peptide; solid-phase synthesis of N-alkyl (didehydro)phenylalanine-containing cyclic peptides as tentoxin and analogs)
IT Alkylation
Cyclization
(solid-phase synthesis of N-alkyl (didehydro)phenylalanine-containing cyclic peptides as tentoxin and analogs)
IT **28540-82-1P 552318-38-4P 552318-39-5P**
552318-40-8P 552318-41-9P 552318-42-0P
552318-43-1P 552318-44-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(solid-phase synthesis of N-alkyl (didehydro)phenylalanine-containing cyclic peptides as tentoxin and analogs)
REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 27 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:298250 HCAPLUS
DOCUMENT NUMBER: 139:36783
TITLE: Solid Phase Library Synthesis of Cyclic Depsipeptides: Aurilide and Aurilide Analogues
AUTHOR(S): Takahashi, Takashi; Nagamiya, Hiroyuki; Doi, Takayuki; Griffiths, Peter G.; Bray, Andrew M.
CORPORATE SOURCE: Department of Applied Chemistry, Tokyo Institute of Technology, Tokyo, 152-8552, Japan
SOURCE: Journal of Combinatorial Chemistry (2003), 5(4), 414-428
CODEN: JCCHFF; ISSN: 1520-4766
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 139:36783
AB A solid-phase combinatorial synthesis approach toward the cyclic depsipeptide aurilide (I) and related analogs II (AA4 = D-Val, Val, D-MeLeu, Sar; AA3 = MeLeu, D-MeLeu, Leu, D-Leu, Sar, Val; AA2 = Sar, Gly, D-MeLeu, Val; AA1 = D-Val, Val, Sar, D-MeLeu) is described. The tetrapeptide fragment H-Val-D-MeLeu-Sar-Val-OH (MeLeu = N-methylleucine) belonging to I was assembled on trityl linker-functionalized SynPhase Crowns using an Fmoc strategy. Optimization of the tetrapeptide H-AA4-AA3-AA2-AA1-OH was carried out using parallel multiple synthesis and LC/MS anal. The aliphatic moiety III was coupled with the solid-supported H-Val-D-MeLeu-Sar-Val-OH using DIC/HOBt. Following deprotection and cleavage of linear precursor, macrocyclization was achieved under high dilution conditions. Next, removal of the methylthiomethyl protecting group provided I in 11% overall yield. Synthesis of a combinatorial library of aurilide derivs. II was accomplished with a similar protocol using the TranSort technique.
CC 34-3 (Amino Acids, Peptides, and Proteins)
IT **Solid phase synthesis**
(combinatorial; solid-phase synthesis of cyclic depsipeptide aurilide and combinatorial solid-phase synthesis of a library of aurilide analogs)
IT **Peptides, preparation**
RL: CPN (Combinatorial preparation); CMBI (Combinatorial study); **PREP (Preparation)**
(depsipeptides, **cyclic**; solid-phase synthesis of **cyclic** depsipeptide aurilide and combinatorial solid-phase synthesis of a library of aurilide analogs)
IT **Macrocyclization**

Peptide library
(solid-phase synthesis of cyclic depsipeptide aurilide and combinatorial solid-phase synthesis of a library of aurilide analogs)

IT **541512-63-4P 541512-64-5P 541512-65-6P**
541512-66-7P 541512-67-8P 541512-68-9P
541512-69-0P 541512-70-3P 541512-71-4P
541512-72-5P 541512-73-6P 541512-74-7P
541512-75-8P 541512-76-9P 541512-77-0P
541512-78-1P 541512-79-2P 541512-80-5P
541512-81-6P 541512-82-7P 541512-83-8P
541512-84-9P 541512-85-0P 541512-86-1P
541512-87-2P
RL: CPN (Combinatorial preparation); CMBI (Combinatorial study); PREP (Preparation)
(solid-phase synthesis of cyclic depsipeptide aurilide and combinatorial solid-phase synthesis of a library of aurilide analogs)

IT **182863-03-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(solid-phase synthesis of cyclic depsipeptide aurilide and combinatorial solid-phase synthesis of a library of aurilide analogs)

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 28 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:295442 HCAPLUS
DOCUMENT NUMBER: 139:36782
TITLE: Biomimetic Synthesis of Gramicidin S and Analogues by Enzymatic Cyclization of Linear Precursors on Solid Support
AUTHOR(S): Wu, Xiaoming; Bu, Xianzhang; Wong, Ka Man; Yan, Weili; Guo, Zhihong
CORPORATE SOURCE: Department of Chemistry and Biotechnology Research Institute, The Hong Kong University of Science and Technology, Hong Kong, Peop. Rep. China
SOURCE: Organic Letters (2003), 5(10), 1749-1752
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 139:36782

AB Gramicidin S is a potent decapeptide antibiotic with high hemolytic activity but is unlikely to provoke microbial resistance. Here, the authors demonstrate that gramicidin thioesterase (GrsB TE) correctly cyclizes immobilized linear decapeptide precursors into head-to-tail products, indicating its suitability for parallel solid-phase synthesis of gramicidin analogs from linear precursors on solid support. This chemoenzymic method will enable the optimization of the therapeutic index of the natural product to fight microbial resistance.

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 7

IT **Peptides, preparation**
RL: BPN (Biosynthetic preparation); BIOL (Biological study); **PREP (Preparation)**
(**cyclic**; solid-phase synthesis of linear gramicidin analogs, and their solid-phase cyclization catalyzed by gramicidin thioesterase)

IT **Cyclization**
(enzymic; solid-phase synthesis of linear gramicidin analogs, and their solid-phase cyclization catalyzed by gramicidin thioesterase)

IT **Solid phase synthesis**

(peptide; solid-phase synthesis of linear gramicidin analogs, and their solid-phase cyclization catalyzed by gramicidin thioesterase)

IT **113-73-5P**, Gramicidin S **143437-71-2P**
540728-81-2P 540728-82-3P 540728-83-4P
540728-84-5P 540728-85-6P 540728-86-7P
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(solid-phase synthesis of linear gramicidin analogs, and their solid-phase cyclization catalyzed by gramicidin thioesterase)

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 29 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:262838 HCAPLUS
DOCUMENT NUMBER: 139:133820
TITLE: First synthesis of segetalins B and G: two cyclopentapeptides with estrogen-like activity
AUTHOR(S): Sonnet, Pascal; Da Nascimento, Sophie; Marty, Danielle; Franceschini, Nicolas; Guillon, Jean; Brion, Jean-Daniel; Rochette, Jacques
CORPORATE SOURCE: EA 2629, G.R.B.P.D., Amiens, F-80037, Fr.
SOURCE: Tetrahedron Letters (2003), 44(16), 3293-3296
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 139:133820

AB The first synthesis of two segetalins B and G is described. The corresponding linear peptides were synthesized using standard automated continuous-flow SPPS methods. Ring closure positions were investigated for segetalin B. The best ring closure result was obtained between Val and Gly.

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 2

IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; synthesis of two cyclopentapeptides with estrogen-like activity segetalins B and G by solid-phase peptide synthesis and cyclization)

IT **Solid phase synthesis**
(peptide; synthesis of two cyclopentapeptides with estrogen-like activity segetalins B and G by solid-phase peptide synthesis and cyclization)

IT **Cyclization**
(synthesis of two cyclopentapeptides with estrogen-like activity segetalins B and G by solid-phase peptide synthesis and cyclization)

IT **164991-89-3P**, Segetalin B **183735-03-7P**, Segetalin G
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of two cyclopentapeptides with estrogen-like activity segetalins B and G by solid-phase peptide synthesis and cyclization)

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 30 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:74883 HCAPLUS
DOCUMENT NUMBER: 138:271962
TITLE: Solid-Phase Synthesis of an A-B Loop Mimetic of the Cε3 Domain of Human IgE: Macrocyclization by Sonogashira Coupling

AUTHOR(S): Spivey, Alan C.; McKendrick, John; Srikaran, Ratnasothy; Helm, Birgit A.
CORPORATE SOURCE: Department of Chemistry, University of Sheffield, Sheffield, S3 7HF, UK
SOURCE: Journal of Organic Chemistry (2003), 68(5), 1843-1851
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 138:271962

AB The solid-phase synthesis of a cyclic peptide containing the 21-residue epitope found in the A-B loop of the Cε3 domain of human IgE has been carried out. The key macrocyclization step to form the 65-membered ring is achieved in .apprx.15% yield via an "on-resin" Sonogashira coupling reaction which concomitantly installs a diphenylacetylene amino acid conformational constraint within the loop.

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 15

IT **Peptides, preparation**
RL: BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**
(**cyclic**; solid-phase preparation and macrocyclization by Sonogashira coupling of a **cyclic** peptide containing A-B loop of the Cε3 domain of human IgE)

IT **Solid phase synthesis**
(peptide; solid-phase preparation and macrocyclization by Sonogashira coupling of a cyclic peptide containing A-B loop of the Cε3 domain of human IgE)

IT Human
Macrocyclization
(solid-phase preparation and macrocyclization by Sonogashira coupling of a cyclic peptide containing A-B loop of the Cε3 domain of human IgE)

IT **503130-81-2P 503130-97-0P**
RL: BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(solid-phase preparation and macrocyclization by Sonogashira coupling of a cyclic peptide containing A-B loop of the Cε3 domain of human IgE)

IT 2122-63-6P 19718-49-1P 33577-99-0P 33578-00-6P 107793-07-7P 503130-82-3P 503130-83-4P 503130-84-5P 503130-85-6P 503130-86-7P 503130-87-8P 503130-88-9P 503130-90-3P 503130-92-5P 503130-93-6DP, resin-bound 503130-94-7DP, resin-bound 503130-95-8DP, resin-bound **503130-96-9DP**, resin-bound 543681-91-0P 543683-60-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(solid-phase preparation and macrocyclization by Sonogashira coupling of a cyclic peptide containing A-B loop of the Cε3 domain of human IgE)

REFERENCE COUNT: 73 THERE ARE 73 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 31 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:12247 HCAPLUS
DOCUMENT NUMBER: 138:369176
TITLE: Efficient macrocyclization for cyclicpeptide using solid-phase reaction
AUTHOR(S): Kim, Joonghup; Hong, Il-Khee; Kim, Hyo-Jeong; Jeong, Hyeh-Jean; Choi, Moon-Jeong; Yoon, Chang-No; Jeong, Jin-Hyun
CORPORATE SOURCE: Korea Institute of Science and Technology, Seoul, 130-650, S. Korea

SOURCE: Archives of Pharmacal Research (2002), 25(6), 801-806
CODEN: APHRDQ; ISSN: 0253-6269
PUBLISHER: Pharmaceutical Society of Korea
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 138:369176

AB Cyclic peptides are important targets in peptide synthesis because of their interesting biol. properties. Constraining highly flexible linear peptides by cyclization is one of the mostly widely used approaches to define the bioactive conformation of peptides. Cyclic peptides often have increased receptor affinity and metabolic stability over their linear counterparts. We carried out virtual screening experiment via docking in order to understand the interaction between HLE (Human Leukocyte Elastase) and ligand peptide and to identify the sequence that can be a target in various ligand peptides. We made cyclic peptides as a target base on Met-Ile-Phe sequence having affinity for ligand and receptor active site docking. There are three ways to cyclize certain sequences of amino acids such as Met-Ile-Phe-Gly-Ile. First is head-to-tail cyclization method, linking between N-terminal and C-terminal. Second method utilizes amino acid side chain such as thiol functional group in Cys, making a thioether bond. The last one includes an application of resin-substituted amino acids in solid phase reaction. Among the three methods, solid phase reaction showed the greatest yield. Macrocyclization of Fmoc-Met-Ile-Phe-Gly-Ile-OBn after cleavage of Fmoc protection in solution phase was carried out to give macrocyclic compound in ≈ 7% yield. In contrast with solution phase reaction, solid phase reaction for macrocyclization of Met-Ile-Phe-Gly-Ile-Asp-Tentagel in normal concentrated condition gave macrocyclic compound in ≥ 35% yield.

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 6

IT **Peptides, preparation**
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; preparation of **cyclic** peptides via solid-phase synthesis)

IT **Solid phase synthesis**
(peptide; preparation of cyclic peptides via solid-phase synthesis)

IT **Cyclization**
(preparation of cyclic peptides via solid-phase synthesis)

IT **521301-49-5P 521301-50-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of cyclic peptides via solid-phase synthesis)

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 32 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:890771 HCAPLUS
DOCUMENT NUMBER: 138:106995
TITLE: Solid-Phase Synthesis of Amine-Bridged Cyclic Enkephalin Analogues via On-Resin Cyclization Utilizing the Fukuyama-Mitsunobu Reaction
AUTHOR(S): Rew, Yosup; Goodman, Murray
CORPORATE SOURCE: Department of Chemistry and Biochemistry, University of California, La Jolla, CA, 92093-0343, USA
SOURCE: Journal of Organic Chemistry (2002), 67(25), 8820-8826
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

OTHER SOURCE(S): CASREACT 138:106995

AB An efficient solid-phase synthetic route is described for the preparation of 13-membered amine-bridged cyclic enkephalin analogs I (R = Me, SO2C6H4NO2-2, H, CH2CH:CH2, CH2Ph, COMe, COPh, cyclopropylmethyl, 1-naphthylmethyl) resulting from a sulfonamide-containing peptide that is resin-bound. The Fukuyama-Mitsunobu reaction of the 2-nitrobenzenesulfonyl-protected amine bound to the solid support with protected aminoethanol in the presence of triphenylphosphine and diisopropyl azodicarboxylate (DIAD) is utilized to prepare a resin-bound sulfonamide-protected secondary amine. After peptide cyclization, this protected amine functionality becomes the "amine bridge" of the target mol. In addition, the reagent DIAD was found to be a superior reagent compared to di-Et azodicarboxylate (DEAD) in the solid-phase Fukuyama-Mitsunobu reaction.

CC 34-3 (Amino Acids, Peptides, and Proteins)

IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; solid-phase preparation of amine-bridged **cyclic** peptides as enkephalin analogs via solid-phase cyclization based on Fukuyama-Mitsunobu reaction)

IT **Solid phase synthesis**
(peptide; solid-phase preparation of amine-bridged cyclic peptides as enkephalin analogs via solid-phase cyclization based on Fukuyama-Mitsunobu reaction)

IT **Cyclization**
(solid-phase preparation of amine-bridged cyclic peptides as enkephalin analogs via solid-phase cyclization based on Fukuyama-Mitsunobu reaction)

IT 487027-89-4P 487027-90-7P 487027-91-8DP, resin-bound 487027-92-9DP, resin-bound **487027-93-0DP**, resin-bound **487027-94-1DP**, resin-bound 487027-95-2DP, resin-bound
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(solid-phase preparation of amine-bridged cyclic peptides as enkephalin analogs via solid-phase cyclization based on Fukuyama-Mitsunobu reaction)

IT **487027-96-3P 487027-98-5P 487028-00-2P 487028-02-4P 487028-04-6P 487028-06-8P 487028-08-0P 487028-10-4P 487028-12-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(solid-phase preparation of amine-bridged cyclic peptides as enkephalin analogs via solid-phase cyclization based on Fukuyama-Mitsunobu reaction)

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 33 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:846414 HCAPLUS

DOCUMENT NUMBER: 138:271953

TITLE: Selenocysteine-mediated backbone cyclization of unprotected peptides followed by alkylation, oxidative elimination or reduction of the selenol

AUTHOR(S): Quaderer, Richard; Hilvert, Donald

CORPORATE SOURCE: Laboratory of Organic Chemistry, Swiss Federal Institute of Technology, Zurich, CH-8093, Switz.

SOURCE: Chemical Communications (Cambridge, United Kingdom) (2002), (22), 2620-2621
CODEN: CHCOFS; ISSN: 1359-7345

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 138:271953
AB An unprotected 16 residue peptide NH2CH(CH2SeR1)CO-(YAVTGRGDSPAASSG)-SEt (R1 = SEt, or CH2p-C6H4MeO) containing a C-terminal thioester and an N-terminal selenocysteine residue efficiently cyclizes in the presence of thiophenol; subsequent reduction, elimination or alkylation of the selenol yields modified cyclic peptides with alanine, dehydroalanine or a non-natural amino acid at the site of ligation.
CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 29
IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; solid-phase synthesis of **cyclic** peptides by selenocysteine-mediated backbone cyclization, alkylation, oxidative elimination or reduction of selenol)
IT **Solid phase synthesis**
(peptide; solid-phase synthesis of cyclic peptides by selenocysteine-mediated backbone cyclization, alkylation, oxidative elimination or reduction of selenol)
IT Alkylation
Cyclization
Reduction
(solid-phase synthesis of cyclic peptides by selenocysteine-mediated backbone cyclization, alkylation, oxidative elimination or reduction of selenol)
IT 503453-96-1P **503453-97-2P 503453-99-4P** 503454-02-2P
503454-03-3P **503454-04-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(solid-phase synthesis of cyclic peptides by selenocysteine-mediated backbone cyclization, alkylation, oxidative elimination or reduction of selenol)
IT **503453-98-3P 503454-00-0P 503454-01-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(solid-phase synthesis of cyclic peptides by selenocysteine-mediated backbone cyclization, alkylation, oxidative elimination or reduction of selenol)
REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 34 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:692585 HCAPLUS
DOCUMENT NUMBER: 138:354229
TITLE: Cyclic analogues of the insect antimicrobial peptides drosocin and apidaecin
AUTHOR(S): Gobbo, Marina; Benincasa, Monica; Biondi, Laura; Filira, Fernando; Gennaro, Renato; Rocchi, Raniero
CORPORATE SOURCE: Centro di Studio sui Biopolimeri del C. N. R., Dipartimento di Chimica Organica, Universita di Padova, Padua, I-35131, Italy
SOURCE: Peptides: The Wave of the Future, Proceedings of the Second International and the Seventeenth American Peptide Symposium, San Diego, CA, United States, June 9-14, 2001 (2001), 776-777. Editor(s): Lebl, Michal; Houghten, Richard A. American Peptide Society: San Diego, Calif.
CODEN: 69DBAL; ISBN: 0-9715560-0-8
DOCUMENT TYPE: Conference

LANGUAGE: English
AB A symposium report. Head-to-tail cyclic analogs of drosocin and apidaecin Ib were synthesized on solid phase and cyclized in solution and their antibacterial activity were compared with those of the unmodified linear peptides.
CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 10, 12
IT **Solid phase synthesis**
(peptide; preparation of cyclic analogs of insect antimicrobial peptides drosocin and apidaecin by SPPS and cyclization)
IT Antimicrobial agents
Cyclization
Infection
Insecta
(preparation of cyclic analogs of insect antimicrobial peptides drosocin and apidaecin by SPPS and cyclization)
IT **Peptides, preparation**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**
(preparation of **cyclic** analogs of insect antimicrobial peptides drosocin and apidaecin by SPPS and cyclization)
IT 123276-94-8DP, Apidaecin Ib, analog 179048-25-0DP, Drosocin, analog **471879-47-7P 471879-49-9P 518036-27-6P**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation of cyclic analogs of insect antimicrobial peptides drosocin and apidaecin by SPPS and cyclization)
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 35 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:692539 HCAPLUS
DOCUMENT NUMBER: 138:338459
TITLE: A novel cyclic opioid peptide antagonist containing a hydroxy group in place of the N-terminal amino function
AUTHOR(S): Weltrowska, Grazyna; Lemieux, Carole; Chung, Nga N.; Schiller, Peter W.
CORPORATE SOURCE: Laboratory of Chemical Biology and Peptide Research, Clinical Research Institute of Montreal, Montreal, QC, H2W 1R7, Can.
SOURCE: Peptides: The Wave of the Future, Proceedings of the Second International and the Seventeenth American Peptide Symposium, San Diego, CA, United States, June 9-14, 2001 (2001), 681-682. Editor(s): Lebl, Michal; Houghten, Richard A. American Peptide Society: San Diego, Calif.
CODEN: 69DBAL; ISBN: 0-9715560-0-8
DOCUMENT TYPE: Conference
LANGUAGE: English
AB A symposium report. Analogs of the potent cyclic opioid peptide agonist H-Tyr-c[D-Cys-Gly-Phe(pNO2)-D-Cys]NH2 were synthesized by replacing Tyr1 with 2-hydroxy-3-(2,6-dimethyl-4-hydroxyphenyl) -propanoic acid [(2S)-Hdp and (2R)-Hdp] on solid phase, following by cyclization. In the guinea pig ileum assay, (2S)-Hdp-analog was a quite potent μ opioid antagonist and was a less potent δ antagonist in the mouse vas deferens assay. The diastereomeric (2R)-Hdp-analog was also a μ and δ opioid antagonist with much lower potency than the-Hdp-peptide.
CC 34-3 (Amino Acids, Peptides, and Proteins)

Section cross-reference(s): 1

IT **Peptides, preparation**
RL: BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**
(**cyclic**; preparation of **cyclic** opioid peptide antagonist from opioid agonist by replacing Tyr1 with hydroxydimethylhydroxyphenyl propanoic acid)

IT **Solid phase synthesis**
(peptide; preparation of cyclic opioid peptide antagonist on solid phase, following by cyclization)

IT **Cyclization**
(preparation of cyclic opioid peptide antagonist on solid phase, following by cyclization)

IT **518051-62-2P 518051-63-3P 518051-64-4P**
RL: BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation of cyclic opioid peptide antagonist from opioid agonist by replacing Tyr1 with hydroxydimethylhydroxyphenyl propanoic acid)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 36 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:692320 HCAPLUS
DOCUMENT NUMBER: 138:338436
TITLE: Solid phase synthesis of large cyclic peptides
AUTHOR(S): Rosenthal-Aizman, Katri; Unden, Anders
CORPORATE SOURCE: Department of Neurochemistry and Neurotoxicology, Stockholm University, Stockholm, S-106 91, Swed.
SOURCE: Peptides: The Wave of the Future, Proceedings of the Second International and the Seventeenth American Peptide Symposium, San Diego, CA, United States, June 9-14, 2001 (2001), 220-221. Editor(s): Lebl, Michal; Houghten, Richard A. American Peptide Society: San Diego, Calif.
CODEN: 69DBAL; ISBN: 0-9715560-0-8
DOCUMENT TYPE: Conference
LANGUAGE: English

AB A symposium report. Reaction conditions for the solid phase synthesis and cyclization of large cyclic peptides with alternating D- and L-amino acids were investigated. These peptides are prone to aggregation after 6-8 residues and the synthesis was best performed with Boc chemical where the in situ neutralization method could be used.

CC 34-3 (Amino Acids, Peptides, and Proteins)

IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; solid phase synthesis of **cyclic** peptides having alternating D- and L-amino acids)

IT **Solid phase synthesis**
(peptide; solid phase synthesis of cyclic peptides having alternating D- and L-amino acids)

IT **Cyclization**
(solid phase synthesis of cyclic peptides having alternating D- and L-amino acids)

IT **515174-60-4P 515174-61-5P** 515174-62-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(solid phase synthesis of cyclic peptides having alternating D- and L-amino acids)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 37 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:652624 HCAPLUS
DOCUMENT NUMBER: 138:56229
TITLE: Studies on the synthesis of cyclic pentapeptides as LHRH antagonists and the factors that influence cyclization yield
AUTHOR(S): Gao, Xing-Ming; Ye, Yun-Hua; Bernd, Michael; Kutscher, Bernhard
CORPORATE SOURCE: Key Laboratory of Bioorganic Chemistry and Molecular Engineering, Department of Chemistry, Ministry of Education, Peking University, Beijing, 100871, Peop. Rep. China
SOURCE: Journal of Peptide Science (2002), 8(8), 418-430
CODEN: JPSIEI; ISSN: 1075-2617
PUBLISHER: John Wiley & Sons Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 138:56229

AB Six cyclic pentapeptides containing two or three non-protein amino acids have been synthesized by cyclization of linear precursors in dilute solution and characterized by TLC, HPLC, NMR, m.p., sp. rotation etc. A total of 72 cyclization reactions were carried out to study the factors that influence head-to-tail cyclization: linear precursor sequence, coupling reagent, residue configuration, the proportion of DMAP additive, concentration, reaction temperature and reaction time. The cyclic pentapeptides will be modified by active moieties and evaluated as LHRH antagonists.

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 1

IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; synthesis of **cyclic** pentapeptides as LHRH antagonists by cyclization and study of cyclization conditions)

IT **Peptides, preparation**
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(pentapeptides; synthesis of **cyclic** pentapeptides as LHRH antagonists by cyclization and study of cyclization conditions)

IT **Solid phase synthesis**
(peptide; solid phase synthesis of linear peptides as precursors for cyclization)

IT **Cyclization**
(synthesis of cyclic pentapeptides as LHRH antagonists by cyclization and study of cyclization conditions)

IT **479619-55-1P 479619-58-4P 479619-61-9P 479619-64-2P 479619-67-5P 479619-70-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of cyclic pentapeptides as LHRH antagonists by cyclization and study of cyclization conditions)

REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 38 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:640970 HCAPLUS
DOCUMENT NUMBER: 137:325635
TITLE: A New Tri-Orthogonal Strategy for Peptide Cyclization
AUTHOR(S): Lundquist, Joseph T.; Pelletier, Jeffrey C.
CORPORATE SOURCE: Division of Discovery Chemistry, Wyeth Research, Collegeville, PA, 19426, USA

SOURCE: Organic Letters (2002), 4(19), 3219-3221
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A solid-phase tri-orthogonal protection/cleavage strategy that uses acidic, basic, and neutral conditions is described for the synthesis of lactam-bridged cyclic peptides I (X = Val, Ile-Val, Ala-Ile-Val). Strategically protected α-azido-γ-(9-fluorenylmethyl)-L-glutamate, N3CH(CH2CH2CO2Fm)CO2H, and α-azido-ε-N-Fmoc-L-lysine, N3CH[(CH2)4NHFmoc]CO2H, were incorporated into growing peptides on Wang resin using a novel azide protection strategy. These residues, separated by 1-3 monomers, were deprotected at the side chains and cyclized via lactam formation. The N-terminus was further functionalized to extend the chain. This method represents a straightforward protocol for peptide cyclization on solid support.

CC 34-3 (Amino Acids, Peptides, and Proteins)

IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; preparation of **cyclic** peptides by using an azide protection strategy and solid-phase cyclization via lactam formation)

IT **Cyclization**
(lactamization, macrolactamization; preparation of cyclic peptides by using an azide protection strategy and solid-phase cyclization via lactam formation)

IT **Macrocyclization**
(macrolactamization; preparation of cyclic peptides by using an azide protection strategy and solid-phase cyclization via lactam formation)

IT **Solid phase synthesis**
(peptide; preparation of cyclic peptides by using an azide protection strategy and solid-phase cyclization via lactam formation)

IT 473430-17-0DP, resin-bound 473430-18-1DP, resin-bound 473430-19-2DP, resin-bound 473430-20-5DP, resin-bound 473430-21-6DP, resin-bound 473430-22-7DP, resin-bound 473430-23-8DP, resin-bound **473430-24-9DP**, resin-bound **473430-25-0DP**, resin-bound
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of cyclic peptides by using an azide protection strategy and solid-phase cyclization via lactam formation)

IT 473430-07-8P **473430-08-9P 473430-09-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of cyclic peptides by using an azide protection strategy and solid-phase cyclization via lactam formation)

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 39 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:588657 HCAPLUS
DOCUMENT NUMBER: 138:165595
TITLE: Biomimetic synthesis and optimization of cyclic peptide antibiotics
AUTHOR(S): Kohli, Rahul M.; Walsh, Christopher T.; Burkart, Michael D.
CORPORATE SOURCE: Department of Biological Chemistry and Molecular Pharmacology, Harvard Medical School, Boston, MA, 02115, USA
SOURCE: Nature (London, United Kingdom) (2002), 418(6898), 658-661

CODEN: NATUAS; ISSN: 0028-0836
PUBLISHER: Nature Publishing Group
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Mols. in nature are often brought to a bioactive conformation by ring formation (macrocyclization). A recurrent theme in the enzymic synthesis of macrocyclic compds. by non-ribosomal and polyketide synthetases is the tethering of activated linear intermediates through thioester linkages to carrier proteins, in a natural analogy to solid-phase synthesis. A terminal thioesterase domain of the synthetase catalyzes release from the tether and cyclization. Here we show that an isolated thioesterase can catalyze the cyclization of linear peptides immobilized on a solid-phase support modified with a biomimetic linker, offering the possibility of merging natural-product biosynthesis with combinatorial solid-phase chemical Starting from the cyclic decapeptide antibiotic tyrocidine A, this chemoenzymic approach allows us to diversify the linear peptide both to probe the enzymol. of the macrocyclizing enzyme, TycC thioesterase, and to create a library of cyclic peptide antibiotic products. We have used this method to reveal natural-product analogs of potential therapeutic utility; these compds. have an increased preference for bacterial over eukaryotic membranes and an improved spectrum of activity against some common bacterial pathogens.

CC 7-3 (Enzymes)
Section cross-reference(s): 10, 34

IT Antibiotics
Bacillus subtilis
Firmicutes
Gram-negative bacteria
Macrocyclization
Solid phase synthesis
(biomimetic synthesis and optimization of cyclic peptide antibiotics)

IT **Peptides, biological studies**
RL: BSU (Biological study, unclassified); CPN (Combinatorial preparation); PRP (Properties); BIOL (Biological study); CMBI (Combinatorial study); **PREP (Preparation)**
(**cyclic**; biomimetic synthesis and optimization of **cyclic** peptide antibiotics)

IT **1481-70-5P 84107-79-9P 461030-90-0P**
484015-18-1P 484015-19-2P 484015-20-5P
484015-21-6P 484015-22-7P 484015-23-8P
484015-24-9P 484015-25-0P 484015-26-1P
484015-27-2P 484015-28-3P 484015-29-4P
484015-30-7P 484015-31-8P 484015-32-9P
484015-33-0P 484015-36-3P 484015-39-6P
484015-41-0P 484015-43-2P 484015-44-3P
484015-45-4P 484015-46-5P 484015-48-7P
484015-49-8P 484015-51-2P 484015-53-4P
484015-54-5P 484015-55-6P 484015-56-7P
484015-57-8P 484015-58-9P 484015-59-0P
484015-60-3P 484015-61-4P 484015-62-5P
484015-63-6P 484015-64-7P 484015-65-8P
484015-66-9P 484015-67-0P 484015-68-1P
484015-69-2P 484015-70-5P 484015-71-6P
484015-72-7P 484015-73-8P 484015-74-9P
484015-75-0P 484015-76-1P 484015-77-2P
484015-78-3P 484015-79-4P 484015-80-7P
484015-81-8P 484015-82-9P 484015-83-0P
484015-84-1P 484015-85-2P 484015-86-3P
484015-87-4P 484015-88-5P 484015-89-6P

484015-90-9P 484015-91-0P 484015-92-1P
484015-93-2P 484015-94-3P 484015-95-4P
484015-96-5P 484015-97-6P 484015-98-7P
484015-99-8P 484016-00-4P 484016-01-5P
484016-02-6P 484016-03-7P 484016-04-8P
484016-05-9P 484016-06-0P 484016-07-1P
484016-08-2P 484016-09-3P 484018-23-7P
484018-24-8P
RL: BSU (Biological study, unclassified); CPN (Combinatorial preparation); PAC (Pharmacological activity); PRP (Properties); BIOL (Biological study); CMBI (Combinatorial study); PREP (Preparation)
(biomimetic synthesis and optimization of cyclic peptide antibiotics)

IT **1481-70-5DP**, Tyrocidine A, analogs
RL: BSU (Biological study, unclassified); CPN (Combinatorial preparation); PRP (Properties); BIOL (Biological study); CMBI (Combinatorial study); PREP (Preparation)
(biomimetic synthesis and optimization of cyclic peptide antibiotics)

IT **484016-10-6 484016-11-7**
RL: PAC (Pharmacological activity); BIOL (Biological study)
(biomimetic synthesis and optimization of cyclic peptide antibiotics)

REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 40 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:568962 HCAPLUS
DOCUMENT NUMBER: 137:247915
TITLE: Synthesis of Tyrocidine A and Its Analogues by Spontaneous Cyclization in Aqueous Solution
AUTHOR(S): Bu, Xianzhang; Wu, Xiaoming; Xie, Guiyang; Guo, Zhihong
CORPORATE SOURCE: Department of Chemistry and Biotechnology Research Institute, The Hong Kong University of Science and Technology, Kowloon, Hong Kong SAR, Peop. Rep. China
SOURCE: Organic Letters (2002), 4(17), 2893-2895
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 137:247915

AB The authors report a facile, quant. cyclization method in aqueous ammonia solution for the total syntheses of the cyclic decapeptide antibiotic Tyrocidine A and its analogs from their fully deprotected linear thioester precursors on a solid support. This novel aqueous method is conformation-dependent and may be applicable to syntheses of other natural cyclic peptides.

CC 34-3 (Amino Acids, Peptides, and Proteins)

IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; preparation of Tyrocidine A and its analogs by the spontaneous cyclization of their resin-bound, fully deprotected linear thioester precursors in aqueous ammonia solution)

IT **Solid phase synthesis**
(peptide; preparation of Tyrocidine A and its analogs by the spontaneous cyclization of their resin-bound, fully deprotected linear thioester precursors in aqueous ammonia solution)

IT **Cyclization**
(preparation of Tyrocidine A and its analogs by the spontaneous cyclization of their resin-bound, fully deprotected linear thioester precursors in aqueous ammonia solution)

IT **1481-70-5P 19659-41-7P 19659-42-8P**
461030-89-7P 461030-90-0P 461030-91-1P
461030-92-2P 461030-93-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of Tyrocidine A and its analogs by the spontaneous cyclization of their resin-bound, fully deprotected linear thioester precursors in aqueous ammonia solution)
REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 41 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:550666 HCAPLUS
DOCUMENT NUMBER: 137:311191
TITLE: Solid-phase syntheses of Loloatins A-C
AUTHOR(S): Scherkenbeck, Jurgen; Chen, Heru; Haynes, Richard K.
CORPORATE SOURCE: Department of Chemistry, The Hong Kong University of Science and Technology, Hong Kong, Peop. Rep. China
SOURCE: European Journal of Organic Chemistry (2002), (14), 2350-2355
CODEN: EJOCFK; ISSN: 1434-193X
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The cyclic decapeptides Loloatin A (cyclic L-valyl-L-ornithyl-L-leucyl-D-tyrosyl-L-prolyl-L-phenylalanyl-D-phenylalanyl-L-asparaginyl-L-aspartyl-L-tyrosyl), Loloatin B (cyclic L-valyl-L-ornithyl-L-leucyl-L-tyrosyl-L-prolyl-L-phenylalanyl-L-phenylalanyl-L-asparaginyl-L-aspartyl-L-tryptophanyl) and Loloatin C (cyclic L-valyl-L-ornithyl-L-leucyl-L-tyrosyl-L-prolyl-L-tryptophanyl-L-phenylalanyl-L-asparaginyl-L-aspartyl-L-tryptophanyl) have been synthesized by Fmoc-based solid-phase peptide synthesis, commencing with Asp linked to polystyrene RAM resin through its side chain, and by on-resin cyclization of the linear decapeptide through Asp and Asn, followed by cleavage of Asp from the resin. Through the use of a unique combination of DMF/dichloroethane solvent mixture in the coupling steps, and careful monitoring of both coupling and Fmoc deprotection steps, the final cyclic peptides were obtained in overall yields of 31-37%.
CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 1
IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; solid-phase syntheses of **cyclic** decapeptides Loloatins A-C)
IT **Solid phase synthesis**
(peptide; solid-phase syntheses of cyclic decapeptides Loloatins A-C)
IT **Cyclization**
(solid-phase syntheses of cyclic decapeptides Loloatins A-C by on-resin cyclization)
IT **202752-12-3P**, Loloatin A **202752-13-4P**, Loloatin C
RL: SPN (Synthetic preparation); PREP (Preparation)
(solid-phase syntheses of cyclic decapeptide Loloatin C)
IT **182422-45-3P**, Loloatin B
RL: SPN (Synthetic preparation); PREP (Preparation)
(solid-phase syntheses of cyclic m decapeptide Loloatin B)
REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 42 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:295892 HCAPLUS

DOCUMENT NUMBER: 137:93988
TITLE: Triazinyl-amino acids, new building blocks for pseudopeptides
AUTHOR(S): Zerkowski, Jonathan A.; Hensley, Laura M.; Abramowitz, David
CORPORATE SOURCE: Department of Chemistry, Loyola University Chicago, Chicago, IL, 60626, USA
SOURCE: Synlett (2002), (4), 557-560
CODEN: SYNLES; ISSN: 0936-5214
PUBLISHER: Georg Thieme Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 137:93988

AB The synthesis of a new heterocyclic building block for unnatural peptide analogs is described, and examples of its application are demonstrated. The 1,3,5-triazine nucleus is readily derivatized to possess an amino and a carboxy terminus, and the third site can be used to incorporate a wide variety of functional groups into an oligomer. This third site can also serve as the point of attachment to a solid-phase resin, allowing convenient construction of macrocyclic pseudopeptides that should be useful as clefts for mol. recognition studies or models of β-strand conformation.

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 28

IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; preparation of **cyclic** peptide mimics using a triazinyl-amino acid component)

IT **Solid phase synthesis**
(peptide; preparation of cyclic peptide mimics using a triazinyl-amino acid component)

IT **Cyclization**
(preparation of cyclic peptide mimics using a triazinyl-amino acid component)

IT **Peptides, preparation**
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(preparation of **cyclic** peptide mimics using a triazinyl-amino acid component)

IT 442127-63-1P 442127-68-6P 442127-73-3P 442127-78-8P 442127-89-1P 442127-95-9P **442128-01-0P** 442128-06-5P 442128-12-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of cyclic peptide mimics using a triazinyl-amino acid component)

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 43 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:288626 HCAPLUS
DOCUMENT NUMBER: 137:20589
TITLE: Arabinose-derived bicyclic amino acids: synthesis, conformational analysis and construction of an αvβ3-selective RGD peptide
AUTHOR(S): Peri, Francesco; Bassetti, Roberta; Caneva, Enrico; De Gioia, Luca; La Ferla, Barbara; Presta, Marco; Tanghetti, Elena; Nicotra, Francesco
CORPORATE SOURCE: Department of Biotechnology and Biosciences, University of Milano-Bicocca, Milan, I-20126, Italy
SOURCE: Journal of the Chemical Society, Perkin Transactions 1

(2002), (5), 638-644
CODEN: JCSPCE; ISSN: 1472-7781
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 137:20589

AB The synthesis, NMR structure determination, and mol. modeling of the conformationally restricted diastereomeric sugar azido acids (I) and (II) are presented. The bicyclic structures of these compds. are obtained through an iodocyclization reaction on the C-allyl glycoside of the D-arabinofuranose. Cyclic tetrapeptide (III) containing the amino acid derived from I linked to the RGD sequence has been synthesized; this compound was found to be a selective antagonist of αvβ3 integrins expressed on GM 7373 cells.

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 6, 33

IT **Peptides, preparation**
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**; RACT (Reactant or reagent)
(**cyclic**; preparation and activity of an αvβ3-selective RGD **cyclic** peptide containing a bicyclic unit derived from arabinofuranose)

IT **Cyclization**
(iodocyclization; preparation and activity of an αvβ3-selective RGD cyclic peptide containing a bicyclic unit derived from arabinofuranose)

IT **Solid phase synthesis**
(peptide; preparation and activity of an αvβ3-selective RGD cyclic peptide containing a bicyclic unit derived from arabinofuranose)

IT Carbohydrates, preparation
Peptides, preparation
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(preparation and activity of an αvβ3-selective RGD **cyclic** peptide containing a bicyclic unit derived from arabinofuranose)

IT **326487-19-8P**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation and activity of an αvβ3-selective RGD cyclic peptide containing a bicyclic unit derived from arabinofuranose)

IT 29022-11-5DP, Fmoc-gly-oh, resin-bound 213742-96-2DP, resin-bound 326487-07-4P 326487-09-6P 326487-11-0P 326487-12-1P 326487-13-2P 326487-14-3P 326487-20-1DP, resin-bound **326487-22-3P** 326487-23-4DP, resin-bound 326586-21-4P 326586-22-5P 433934-78-2P 433934-79-3P 433934-80-6DP, resin-bound 433934-80-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and activity of an αvβ3-selective RGD cyclic peptide containing a bicyclic unit derived from arabinofuranose)

REFERENCE COUNT: 61 THERE ARE 61 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 44 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:203445 HCAPLUS
DOCUMENT NUMBER: 136:386388
TITLE: Synthesis of novel protected Nα(ω-thioalkyl) amino acid building units and their incorporation in backbone cyclic disulfide and thioetheric bridged peptides

AUTHOR(S): Gazal, S.; Gellerman, G.; Glukhov, E.; Gilon, C.
CORPORATE SOURCE: Department of Organic Chemistry, Hebrew University, Jerusalem, Israel
SOURCE: Journal of Peptide Research (2001), 58(6), 527-539
CODEN: JPERFA; ISSN: 1397-002X
PUBLISHER: Munksgaard International Publishers Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 136:386388

AB General methods for the preparation of protected Nα(ω-thioalkyl) amino acids building units for backbone cyclization using reductive alkylation and on-resin preparation are described. The synthesis of non-Gly Fmoc-protected S-functionalized N-alkylated amino acids is based on the reaction of readily prepared protected ω-thio aldehyde with the appropriate amino acid. Preparation of Fmoc-protected S-functionalized N-alkylated Gly building units was carried out using two methods: reaction of glyoxylic acid with Acm-thioalkylamine and an on-resin reaction of bromoacetyl resin with Trt-thioalkylamines. Three model peptides were prepared using these building units. The GlyS2 building unit was incorporated into a backbone cyclic analog of somatostatin that contains a disulfide bridge. Formation of the disulfide bridge was performed by on-resin oxidation using I2 or TI(CF3COO-)3. Both methods resulted in the desired product in a high degree of purity in the crude. The AspS3 building unit was also successfully incorporated into a model peptide. In addition, the in situ generation of sulfur containing Gly building units was demonstrated on a Substance P backbone cyclic analog containing a thioether bridge.

CC 34-3 (Amino Acids, Peptides, and Proteins)

IT **Cyclization**
(backbone; synthesis of protected thioalkyl amino acids for incorporation in backbone cyclic disulfide and thioetheric bridged peptides using reductive alkylation and on-resin oxidation)

IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; synthesis of protected thioalkyl amino acids for incorporation in backbone **cyclic** disulfide and thioetheric bridged peptides using reductive alkylation and on-resin oxidation)

IT Oxidation
Protective groups
Solid phase synthesis
(synthesis of protected thioalkyl amino acids for incorporation in backbone cyclic disulfide and thioetheric bridged peptides using reductive alkylation and on-resin oxidation)

IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(thioetheric bridged; synthesis of protected thioalkyl amino acids for incorporation in backbone **cyclic** disulfide and thioetheric bridged peptides using reductive alkylation and on-resin oxidation)

IT 1095-85-8P 33507-63-0DP, Substance P, analog **252845-42-4P**
426828-06-0P 426828-10-6P 426828-11-7P 426828-12-8P
426828-13-9P 426828-14-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of protected thioalkyl amino acids for incorporation in backbone cyclic disulfide and thioetheric bridged peptides using reductive alkylation and on-resin oxidation)

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 45 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:198512 HCAPLUS
DOCUMENT NUMBER: 136:369984
TITLE: Biomimetic Stereoselective Formation of Methyllanthionine
AUTHOR(S): Zhou, Hao; van der Donk, Wilfred A.
CORPORATE SOURCE: Department of Chemistry, University of Illinois at Urbana-Champaign, Urbana, IL, 61801, USA
SOURCE: Organic Letters (2002), 4(8), 1335-1338
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 136:369984

AB Fmoc-(2R,3S)-3-methyl-Se-phenylselenocysteine was used for the synthesis of dehydrobutyrine (Dhb)-containing peptides. Biomimetic cyclization via Michael addition of Cys to a Dhb yielded the B-ring of the lantibiotic subtilin as a single diastereomer. The methyllanthionine product was shown to have the natural configuration by preparation of the authentic stereoisomer. The formation of a single isomer suggests that the pre-cyclized peptide has a strong intrinsic preference for the stereochem. observed in lantibiotics.

CC 34-3 (Amino Acids, Peptides, and Proteins)

IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; solid-phase preparation of a cysteine- and dehydrobutyrine-containing peptide and its intramol. stereoselective cyclization via Michael addition to form the B ring of subtilin)

IT **Solid phase synthesis**
(peptide; solid-phase preparation of a cysteine- and dehydrobutyrine-containing peptide and its intramol. stereoselective cyclization via Michael addition to form the B ring of subtilin)

IT **Cyclization**
(stereoselective, biomimetic; solid-phase preparation of a cysteine- and dehydrobutyrine-containing peptide and its intramol. stereoselective cyclization via Michael addition to form the B ring of subtilin)

IT **1393-38-0**, Subtilin
RL: MSC (Miscellaneous)
(solid-phase preparation of a cysteine- and dehydrobutyrine-containing peptide and its intramol. stereoselective cyclization via Michael addition to form the B ring of subtilin)

IT **425399-94-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(solid-phase preparation of a cysteine- and dehydrobutyrine-containing peptide and its intramol. stereoselective cyclization via Michael addition to form the B ring of subtilin)

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 46 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:115337 HCAPLUS
DOCUMENT NUMBER: 136:355456
TITLE: An optimized solid phase synthesis strategy - including on-resin lactamization - of astressin, its retro-, inverso-, and retro-inverso isomers as corticotropin releasing factor antagonists
AUTHOR(S): Rijkers, Dirk T. S.; Den Hartog, Jack A. J.; Liskamp,

Rob M. J.
CORPORATE SOURCE: Department of Medicinal Chemistry, Faculty of Pharmacy, Utrecht Institute for Pharmaceutical Sciences, Utrecht University, Utrecht, 3508 TB, Neth.
SOURCE: Biopolymers (2002), 63(2), 141-149
CODEN: BIPMAA; ISSN: 0006-3525
PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB This report describes an optimized solid phase synthesis strategy for astressin and new derivs. thereof. The synthesis is based on 9-fluorenylmethyloxycarbonyl/allyl/tert-Bu chemical The glutamic acid and lysine residue, which together form the cyclic constraint by coupling of their side chains, were protected by allyl functionalities during the synthesis of the linear peptide. Allyl removal by Pd(0) and the construction of the lactam bridge have been performed on-resin after completion of the chain assembly. This synthetic methodol. resulted in high chemical yields (58-72%) and excellent purities of the crude peptides. The peptides were tested for their binding at the corticotropin releasing factor receptor, type 1, and their corticotropin releasing factor antagonistic activity. Furthermore, astressin and its analogs were studied by CD in order to determine the secondary structure in solution Since the linear form of astressin and also the cyclic inverso isomer were found to be fully inactive, it can be concluded that a cyclic constraint and a right-handed α-helix, resp., are of utmost importance for these peptides to act as corticotropin releasing factor antagonists.
CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 6
IT **Peptides, preparation**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**
(**cyclic**; preparation and activity as corticotropin releasing factor antagonists of astressin and analogs using optimized solid phase synthesis including on-resin lactamization)
IT **Cyclization**
Solid phase synthesis
α-Helix
(preparation and activity as corticotropin releasing factor antagonists of astressin and analogs using optimized solid phase synthesis including on-resin lactamization)
IT **170809-51-5P** 170809-52-6P 419536-70-2P **419536-71-3P**
419536-72-4P **419536-73-5P** 419536-74-6P **419536-75-7P**
RL: BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation and activity as corticotropin releasing factor antagonists of astressin and analogs using optimized solid phase synthesis including on-resin lactamization)
REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 47 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:113635 HCAPLUS
DOCUMENT NUMBER: 139:85614
TITLE: Cyclic analogs of insect oostatic peptides: synthesis, biological activity, and NMR study. [Erratum to document cited in CA136:70062]
AUTHOR(S): Hlavacek, Jan; Budesinsky, Milos; Bennettova, Blanka; Marik, Jan; Tykva, Richard

CORPORATE SOURCE: Institute of Organic Chemistry and Biochemistry, Academy of Sciences, Prague, 166 10, Czech Rep.
SOURCE: Bioorganic Chemistry (2001), 29(6), 398
CODEN: BOCMBM; ISSN: 0045-2068
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The corrected Figure 1 (page 289) is given together with its legend, which was correct as originally printed.

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 6, 9, 12, 22

IT **Peptides, preparation**
RL: BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**
(**cyclic**; synthesis, conformation and structure-activity relationship by NMR of **cyclic** analogs of insect oostatic peptides (Erratum))

IT **Solid phase synthesis**
(peptide; solid phase synthesis of precursors of cyclic analogs of insect oostatic peptides (Erratum))

IT Conformation
Cyclization
Molecular structure
(synthesis, conformation and structure-activity relationship by NMR of cyclic analogs of insect oostatic peptides (Erratum))

IT **255905-95-4P 383881-89-8P 383881-90-1P**
RL: BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(synthesis, conformation and structure-activity relationship by NMR of cyclic analogs of insect oostatic peptides (Erratum))

IT 383881-91-2P 383881-92-3P **383881-93-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis, conformation and structure-activity relationship by NMR of cyclic analogs of insect oostatic peptides (Erratum))

L35 ANSWER 48 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:68230 HCAPLUS
DOCUMENT NUMBER: 136:310152
TITLE: Synthesis of a cyclic peptide library based on the somatostatin sequence using the backbone amide linker approach
AUTHOR(S): Bourne, Gregory T.; Golding, Simon W.; Meutermans, Wim D. F.; Smythe, Mark L.
CORPORATE SOURCE: Centre for Drug Design and Development, Institute for Molecular Bioscience, The University of Queensland, Brisbane, 4072, Australia
SOURCE: Letters in Peptide Science (2001), Volume Date 2000, 7(6), 311-316
CODEN: LPSCEM; ISSN: 0929-5666
PUBLISHER: Kluwer Academic Publishers
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Herein, we report on the synthesis of a library of cyclic peptides targeted at the somatostatin receptor using the backbone amide linker strategy. After optimizing head-to-tail cyclization and cleavage conditions, a library of discrete cyclic peptides was assembled in high purity and good overall yield.

CC 34-3 (Amino Acids, Peptides, and Proteins)

IT **Peptides, preparation**
RL: CPN (Combinatorial preparation); CMBI (Combinatorial study); **PREP (Preparation)**
(**cyclic**; synthesis of **cyclic** peptide library based on somatostatin sequence using the backbone amide linker approach)
IT **Cyclization**
(head-to-tail; synthesis of cyclic peptide library based on somatostatin sequence using the backbone amide linker approach)
IT **Solid phase synthesis**
(peptide; synthesis of cyclic peptide library based on somatostatin sequence using the backbone amide linker approach)
IT **409361-81-5P 409361-82-6P**
RL: BYP (Byproduct); PREP (Preparation)
(synthesis of cyclic peptide library based on somatostatin sequence using the backbone amide linker approach)
IT **38916-34-6DP**, Somatostatin, analogs **385426-85-7P 385426-89-1P 409361-74-6P 409361-75-7P 409361-76-8P 409361-77-9P 409361-78-0P 409361-79-1P 409361-80-4P**
RL: CPN (Combinatorial preparation); CMBI (Combinatorial study); PREP (Preparation)
(synthesis of cyclic peptide library based on somatostatin sequence using the backbone amide linker approach)
REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 49 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:64784 HCAPLUS
DOCUMENT NUMBER: 136:263454
TITLE: Head-to-Backbone Cyclization of Peptides on Solid Support by Nucleophilic Aromatic Substitution
AUTHOR(S): Kofod-Hansen, Mikael; Peschke, Bernd; Thogersen, Henning
CORPORATE SOURCE: Discovery Chemistry, Novo Nordisk A/S, Malov, DK-2760, Den.
SOURCE: Journal of Organic Chemistry (2002), 67(4), 1227-1232
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 136:263454
AB A new versatile synthetic route is presented for the cyclization of tripeptides on solid support using nucleophilic aromatic substitution in the cyclization step. Identification of all conformers within a limit of 3 kcal/mol from the identified global min. conformations by Monte Carlo conformational searching reveals that five out of six synthesized compds. have well-defined peptide backbone conformational properties. This was determined by clustering the identified conformers against a filter of seven to nine torsion angles in the peptide backbone. Thus, the results meet the authors' goal to find synthetic routes to peptides that are conformationally sufficiently locked to serve as convenient leads for further development of pharmacophoric models. The strategy is based on Fmoc-peptide chemical on a N-aminoethyl-substituted glycine bound to the com. available Rink amide PS-resin. After deprotection of the N-terminus of the tripeptide, it is acylated with a fluoronitrobenzoic acid. Subsequently, a Boc group on the N-bound aminoethyl substituent is selectively deprotected allowing cyclization from the head (N-terminus) to the backbone substituent, thereby leading to the desired cyclized tripeptides. A number of representative examples of peptides cyclized by

this method have been synthesized and characterized by NMR. Protecting groups that allow the incorporation of side chain functionalized amino acids have been found.

CC 34-3 (Amino Acids, Peptides, and Proteins)

IT **Peptides, preparation**
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; solid-phase preparation of tripeptides and their subsequent head-to-backbone cyclization on solid support by nucleophilic aromatic substitution)

IT **Cyclization**
(head-to-backbone; solid-phase preparation of tripeptides and their subsequent head-to-backbone cyclization on solid support by nucleophilic aromatic substitution)

IT **Solid phase synthesis**
(peptide; solid-phase preparation of tripeptides and their subsequent head-to-backbone cyclization on solid support by nucleophilic aromatic substitution)

IT **405082-41-9P 405082-42-0P 405082-43-1P**
405082-44-2P 405082-45-3P 405082-46-4P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(solid-phase preparation of tripeptides and their subsequent head-to-backbone cyclization on solid support by nucleophilic aromatic substitution)

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 50 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:46848 HCAPLUS
DOCUMENT NUMBER: 137:20571
TITLE: Solid phase synthesis and hypoglycemic activity of cyclic analogs of human growth hormone (6-13)
AUTHOR(S): Cavallaro, V.; Thompson, P. E.; Warner, T.; Hearn, M. T. W.
CORPORATE SOURCE: Centre for Bioprocess Technology, Department of Biochemistry and Molecular Biology, Monash University, Clayton, 3168, Australia
SOURCE: Innovation and Perspectives in Solid Phase Synthesis & Combinatorial Libraries: Peptides, Proteins and Nucleic Acids--Small Molecule Organic Chemistry Diversity, Collected Papers, International Symposium, 6th, York, United Kingdom, Aug. 31-Sept. 4, 1999 (2001), Meeting Date 1999, 195-198. Editor(s): Epton, Roger. Mayflower Scientific Ltd.: Kingswinford, UK.
CODEN: 69CEGV; ISBN: 0-9515735-3-5
DOCUMENT TYPE: Conference
LANGUAGE: English

AB A symposium report. Six cyclic analogs of human growth hormone (hGH)(6-13) were prepared and their insulin-binding properties tabulated. While the most definitive indicator of activity in hGH(6-13) analogs is the hypoglycemia observed during in vivo insulin tolerance tests, these peptides show significant potentiation of insulin-induced glucose transport in rat adipocytes isolated ex vivo as measured by uptake of [14C]-2-deoxyglucose.

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 1

IT **Peptides, preparation**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**

(**cyclic**; solid phase synthesis and hypoglycemic activity of **cyclic** analogs of human growth hormone fragment)
IT **Solid phase synthesis**
(peptide; solid phase synthesis and hypoglycemic activity of cyclic analogs of human growth hormone fragment)
IT Antidiabetic agents
Cyclization
Hypoglycemia
(solid phase synthesis and hypoglycemic activity of cyclic analogs of human growth hormone fragment)
IT 55207-83-5DP, Human growth hormone 6 13, cyclic analogs
395661-71-9P 395661-72-0P 395661-73-1P
395661-75-3P 395661-76-4P 395661-77-5P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(solid phase synthesis and hypoglycemic activity of cyclic analogs of human growth hormone fragment)
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 51 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:783791 HCAPLUS
DOCUMENT NUMBER: 136:151430
TITLE: Solid-phase synthesis of cyclic analogues related to the hypoglycaemic peptide hGH(6-13): comparison of two i → i + 4 lactam cyclization procedures
AUTHOR(S): Cavallaro, Vittoria; Thompson, Philip E.; Hearn, Milton T. W.
CORPORATE SOURCE: Department of Biochemistry and Molecular Biology, Monash University, Clayton, 3168, Australia
SOURCE: Journal of Peptide Science (2001), 7(10), 529-536
CODEN: JPSIEI; ISSN: 1075-2617
PUBLISHER: John Wiley & Sons Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The use of 1,3-diisopropylcarbodiimide (DIC) for the synthesis of cyclic analogs of the hypoglycemic peptide fragment derived from the N-terminus of human growth hormone (hGH), namely hGH[6-13], is described. Different strategies were examined to achieve improved yields for the on resin side-chain to side-chain cyclization of the corresponding linear peptides containing reverse β-turn motifs. When compared with the more reactive Castro's reagent, the results confirm that DIC in the presence of HOBt can be successfully employed to minimize the formation of intermol. oligomeric byproducts associated with the preparation of cyclic hGH[6-14] peptide analogs based on an i → (i + 4)Lys → Glu or Glu → Lys cyclization strategy.
CC 34-3 (Amino Acids, Peptides, and Proteins)
IT **Cyclization**
IT **Peptides, preparation**
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(**cyclic**; preparation of **cyclic** analogs of human hypoglycemic peptide using lactam cyclization procedures)
IT **Solid phase synthesis**
(peptide; preparation of cyclic analogs of human hypoglycemic peptide using lactam cyclization procedures)
IT **395661-71-9P 395661-72-0P** 395661-73-1P
395661-75-3P 395661-76-4P 395661-77-5P
RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of cyclic analogs of human hypoglycemic peptide using lactam cyclization procedures)
REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 52 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:714972 HCAPLUS
DOCUMENT NUMBER: 136:70062
TITLE: Cyclic analogs of insect oostatic peptides: synthesis, biological activity, and NMR study
AUTHOR(S): Hlavacek, Jan; Budesinsky, Milos; Bennettova, Blanka; Marik, Jan; Tykva, Richard
CORPORATE SOURCE: Institute of Organic Chemistry and Biochemistry, Academy of Sciences, Prague, 166 10, Czech Rep.
SOURCE: Bioorganic Chemistry (2001), 29(5), 282-292
CODEN: BOCMBM; ISSN: 0045-2068
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 136:70062
AB Cyclic peptides cyclo(TyrAspProAlaProTyrAspProAlaPro) (2a), cyclo(TyrAspProAla)·(2b), and cyclo(TyrAspProAlaPro) (2c) derived from the sequence of the C-terminal shortened analogs of the oostatic decapeptide (HTyrAspProAlaProProProProProProOH) (1a), were synthesized and assayed on their effect in a reproduction of the flesh fly Neobellieria bullata. The cyclization of the N-terminal linear tetra- and pentapeptides 1b and 1c to the cyclotetra- and cyclopentapeptides 2b and 2c decreased the oostatic activity by one order of magnitude. The cyclodecapeptide 2a, which emerged spontaneously during the pentapeptide cyclization, was quite inactive. Comparative 1H and 13C NMR study on a conformation of the cyclopeptides 2a-2c, and their linear precursors (HTyrAspProAlaOH) (1b) and (HTyrAspProAlaProOH) (1c) revealed that a space structure of the cyclic analogs 2b and 2c is too restricted to adopt a biol. conformation necessary for receptor binding and therefore only minor oostatic activity is observed after their application. The lack of the oostatic activity in the case of the more flexible dimeric analog 2a is ascribed to the size of its mol. and its overall shape that is not compatible with a receptor binding. (c) 2001 Academic Press.
CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 6, 9, 12, 22
IT **Peptides, preparation**
RL: BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**
(**cyclic**; synthesis, conformation and structure-activity relationship by NMR of **cyclic** analogs of insect oostatic peptides)
IT **Solid phase synthesis**
(peptide; solid phase synthesis of precursors of cyclic analogs of insect oostatic peptides)
IT Conformation
Cyclization
Molecular structure
(synthesis, conformation and structure-activity relationship by NMR of cyclic analogs of insect oostatic peptides)
IT **255905-95-4P 383881-89-8P 383881-90-1P**
RL: BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(synthesis, conformation and structure-activity relationship by NMR of cyclic analogs of insect oostatic peptides)

IT 383881-91-2P 383881-92-3P **383881-93-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis, conformation and structure-activity relationship by NMR of cyclic analogs of insect oostatic peptides)
REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 53 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:327131 HCAPLUS
DOCUMENT NUMBER: 135:92826
TITLE: A Thioester Ligation Approach to Amphipathic Bicyclic Peptide Library
AUTHOR(S): Sun, Ying; Lu, Guishen; Tam, James P.
CORPORATE SOURCE: Institute of Materia Medica, Chinese Academy of Medical Sciences, Beijing, 100050, Peop. Rep. China
SOURCE: Organic Letters (2001), 3(11), 1681-1684
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 135:92826
AB An efficient approach to synthesize an amphipathic bicyclic peptide library from unprotected peptides is demonstrated through an on-resin intramol. thioester ligation and an off-resin DMSO-mediated disulfide formation. The bicyclic peptides exhibited excellent aqueous solubility, as well as moderate microbicidal activity.
CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 1
IT **Peptides, preparation**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**
(**cyclic**; preparation of an amphipathic bicyclic peptide library using a thioester ligation approach)
IT **Solid phase synthesis**
(peptide; preparation of an amphipathic bicyclic peptide library using a thioester ligation approach)
IT **Cyclization**
(preparation of an amphipathic bicyclic peptide library using a thioester ligation approach)
IT **349566-52-5P 349566-55-8P 349566-57-0P**
349566-59-2P 349566-62-7P 349566-64-9P
349566-65-0P 349566-67-2P 349566-70-7P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
(preparation of an amphipathic bicyclic peptide library using a thioester ligation approach)
IT **349566-24-1P 349566-33-2P 349566-36-5P**
349566-38-7P 349566-40-1P 349566-43-4P
349566-45-6P 349566-47-8P 349566-49-0P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation of an amphipathic bicyclic peptide library using a thioester ligation approach)
IT **349566-76-3P 349566-80-9P 349566-83-2P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of an amphipathic bicyclic peptide library using a thioester ligation approach)

IT **349566-25-2P 349566-27-4P 349566-30-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of an amphipathic bicyclic peptide library using a thioester ligation approach)

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 54 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:266619 HCAPLUS
DOCUMENT NUMBER: 135:46409
TITLE: Highly potent side-chain to side-chain cyclized enkephalin analogues containing a carbonyl bridge: synthesis, biology and conformation
AUTHOR(S): Pawlak, Danuta; Oleszczuk, Marta; Wojcik, Jacek; Pachulska, Maria; Chung, Nga N.; Schiller, Peter W.; Izdebski, Jan
CORPORATE SOURCE: Laboratory of Peptides, Department of Chemistry, University of Warsaw, Warsaw, 02-093, Pol.
SOURCE: Journal of Peptide Science (2001), 7(3), 128-140
CODEN: JPSIEI; ISSN: 1075-2617
PUBLISHER: John Wiley & Sons Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Six novel cyclic enkephalin analogs have been synthesized. Cyclization of the linear peptides containing basic amino acid residues in position 2 and 5 was achieved by treatment with bis(4-nitrophenyl)carbonate. It was found that some of the compds. exhibit unusually high μ-opioid activity in the guinea pig ileum (GPI) assay. The 18-membered analog cyclo(Nε,Nβ'-carbonyl-D-Lys2,Dap5)-enkephalinamide (Dap = α,β-diaminopropionic acid) turned out to be one of the most potent μ-agonists reported so far. NMR spectra of the peptides were recorded and structural parameters were determined The conformational space was exhaustively examined for each of them using the electrostatically driven Monte Carlo method. Each peptide was finally described as an ensemble of conformations. A model of the bioactive conformation of this class of opioid peptides was proposed.

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 1, 2, 22

IT **Peptides, preparation**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**
(**cyclic**; preparation, and conformation of **cyclic** enkephalin analogs as μ-opioid agonists)

IT **Solid phase synthesis**
(peptide; preparation, and conformation of cyclic enkephalin analogs as μ-opioid agonists)

IT **Cyclization**
(preparation by cyclization with bisnitrophenylcarbonate of cyclic enkephalin analogs as μ-opioid agonists)

IT **194660-15-6P 285568-15-2P 285568-16-3P**
285568-17-4P 285568-18-5P 285568-19-6P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(preparation, and conformation of cyclic enkephalin analogs as μ-opioid agonists)
REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 55 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:168580 HCAPLUS
DOCUMENT NUMBER: 134:326752
TITLE: Single-Step Formation of Structurally Defined Bicyclic Peptides via SNAr Cyclization
AUTHOR(S): Kohn, Wayne D.; Zhang, Lianshan; Weigel, John A.
CORPORATE SOURCE: Sphinx Laboratories, Eli Lilly Company, Cambridge, MA, 02139, USA
SOURCE: Organic Letters (2001), 3(7), 971-974
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 134:326752
AB A solid-phase methodol. for macrocyclization via an SNAr reaction has been developed for the unambiguous formation of bicyclic peptidic compds. in a single cyclization step. The cyclization strategy involves the reaction of a 3,5-dihydroxybenzoyl group with two nitrofluorobenzoyl moieties. The symmetry of the dihydroxy aromatic ring results in a single product, and the remaining nitro groups are subsequently reduced to anilines and acylated.
CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 28
IT **Peptides, preparation**
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(**cyclic**; preparation of macrobicyclic peptides via SNAr single step cyclization)
IT **Macrocyclization**
Solid phase synthesis
(preparation of macrobicyclic peptides via SNAr single step cyclization)
IT **336615-16-8P 336615-17-9P 336615-18-0P**
336615-19-1P 336615-20-4P 336615-21-5P
336615-22-6P 336615-23-7P 336615-24-8P
336615-25-9P 336615-26-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of macrobicyclic peptides via SNAr single step cyclization)
REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 56 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:131635 HCAPLUS
DOCUMENT NUMBER: 134:296097
TITLE: Cyclic analogue of human heat shock protein 70(29-42) fragment. Synthesis, conformational studies and evaluation of its immunogenicity
AUTHOR(S): Karawajczyk, B.; Wirkus-Romanowska, I.; Wysocki, J.; Rolka, K.; Mackiewicz, Z.; Glosnicka, R.; Kupryszewski, G.
CORPORATE SOURCE: Faculty of Chemistry, University of Gdansk, Gdansk, 80-952, Pol.
SOURCE: Polish Journal of Chemistry (2001), 75(2), 265-273
CODEN: PJCHDQ; ISSN: 0137-5083
PUBLISHER: Polish Chemical Society
DOCUMENT TYPE: Journal

LANGUAGE: English

AB The cyclic hexadecapeptide containing human heat shock protein 70(29-42) fragment cyclized by the disulfide bridge between two L-cysteine residues introduced at the N- and C-termini was synthesized by the solid phase method. It was established that the cyclic analog, contrary to its linear counterpart, had much lower ability to generate immune response in rabbits. Conformational studies of cyclic peptide performed using 1D and 2D 1H-NMR spectroscopy in conjunction with theor. conformational anal. revealed that the cyclization constrained the 3D structure of this peptide, reflected by the observed rate of cis/trans isomerization of Arg9-Thr10 peptide bond and the presence of Gly7-Asn8 peptide bond in cis geometry. We, therefore, postulate that the conformational flexibility in the case of Human Heat Shock Protein fragments is a key element for their immunogenicity.

CC 34-4 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 6, 15, 22

IT **Peptides, preparation**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**
(**cyclic**; preparation, conformation and immunogenicity of **cyclic** analog of human heat shock protein fragment)

IT **Solid phase synthesis**
(peptide; preparation, conformation and immunogenicity of cyclic analog of human heat shock protein fragment)

IT Conformation
Cyclization
Immunostimulants
(preparation, conformation and immunogenicity of cyclic analog of human heat shock protein fragment)

IT **334543-35-0P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation, conformation and immunogenicity of cyclic analog of human heat shock protein fragment)

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 57 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:128879 HCAPLUS
DOCUMENT NUMBER: 134:326742
TITLE: First synthesis of segetalin A and analogous cyclohexapeptides
AUTHOR(S): Sonnet, P.; Petit, L.; Marty, D.; Guillon, J.; Rochette, J.; Brion, J.-D.
CORPORATE SOURCE: EA 2629-Biomolecules et Pathologies Degeneratives, Facultes de Medecine et de Pharmacie, Amiens, F-80037, Fr.
SOURCE: Tetrahedron Letters (2001), 42(9), 1681-1683
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The first synthesis of segetalin A and two analogs is described. Peptide cyclization was carried out between L-glycine and L-alanine residues in the linear hexapeptide at the final step of the synthesis. Diphenylphosphoryl azide (DPPA) gave the best results as a coupling reagent without epimerization. The synthesized segetalin A was completely

identical to the natural compound with respect to its physicochem. properties.

CC 34-3 (Amino Acids, Peptides, and Proteins)

IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; preparation of segetalin A and its cyclohexapeptide analogs by peptide coupling and cyclization)

IT **Solid phase synthesis**
(peptide; preparation of segetalin A and its cyclohexapeptide analogs by peptide coupling and cyclization)

IT **Cyclization**
(preparation of segetalin A and its cyclohexapeptide analogs by peptide coupling and cyclization)

IT **336629-32-4P**
RL: BYP (Byproduct); PREP (Preparation)
(preparation of segetalin A and its cyclohexapeptide analogs by peptide coupling and cyclization)

IT **161875-97-4DP**, Segetalin A, analogs **161875-97-4P**, Segetalin A **336629-30-2P 336629-31-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of segetalin A and its cyclohexapeptide analogs by peptide coupling and cyclization)

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 58 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:118576 HCAPLUS
DOCUMENT NUMBER: 134:296084
TITLE: Unexpected conformational properties of a peptide constrained by an aliphatic link between the i and i+4 positions
AUTHOR(S): McNamara, L. M. A.; Andrews, M. J. I.; Mitzel, F.; Siligardi, G.; Tabor, A. B.
CORPORATE SOURCE: Christopher Ingold Laboratories, Department of Chemistry, University College London, London, WC1H 0AJ, UK
SOURCE: Tetrahedron Letters (2001), 42(8), 1591-1593
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A new method for the synthesis of cyclic peptides bearing unnatural aliphatic linkages between the side-chains at the i and i+4 positions is reported. Structural studies of the prepared peptide by CD revealed an unexpectedly strong β-turn propensity.

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 22

IT **Peptides, preparation**
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; solid-phase synthesis and conformation of peptide constrained by an aliphatic link between the i and i+4 positions)

IT **Solid phase synthesis**
(peptide; solid-phase synthesis and conformation of peptide constrained by an aliphatic link between the i and i+4 positions)

IT Conformation
Cyclization
(solid-phase synthesis and conformation of peptide constrained by an aliphatic link between the i and i+4 positions)

IT **334540-06-6P** 334540-08-8P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(solid-phase synthesis and conformation of peptide constrained by an aliphatic link between the i and i+4 positions)
IT 334540-10-2DP, resin-bound 334540-12-4DP, resin-bound 334540-14-6DP, resin-bound **334540-16-8DP**, resin-bound
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(solid-phase synthesis and conformation of peptide constrained by an aliphatic link between the i and i+4 positions)
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 59 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:894358 HCAPLUS
DOCUMENT NUMBER: 134:147847
TITLE: Combinatorial solid-phase synthesis of multivalent cyclic neoglycopeptides
AUTHOR(S): Wittmann, Valentin; Seeberger, Sonja
CORPORATE SOURCE: Institut fur Organische Chemie, Johann Wolfgang Goethe-Universitat, Frankfurt, 60439, Germany
SOURCE: Angewandte Chemie, International Edition (2000), 39(23), 4348-4352
CODEN: ACIEF5; ISSN: 1433-7851
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 134:147847
AB The authors have synthesized an 18-member library of carbohydrate-substituted cyclic peptides of the type cyclo[Boc-Lys-Pro-Lys(R)-Ala-Pro-Gly-Leu-Glu]-Bal-NH2 [BOC = (CH3)3COC(O); Bal = β-alanine; R = 2-acetylamino-2-deoxy-3,4,6-tri-O-acetyl-β-D-glucopyranosyl, which was connected via -(Z)-CH2CH:CHCH2OC(O)- linker to side-chain amino groups of the cyclic peptide]. Using split-mix bead solid-phase synthesis techniques, up to three R groups were introduced to the cyclic peptide to test for directed multivalent activity in lectin binding. The urethane-type linker for sugar attachment gave virtually quant. yield, and allowed cleavage of the sugars from the cyclic peptide scaffold to allow for automated microsequencing of the scaffold under standard conditions. Using H2C:CHCH2OC(O), OCH2CH:CH2, and Ddv (I) as protecting groups for, resp., the N-terminal Lys, the C-terminal Glu side-chain, and the side-chain amino groups to be sugar-substituted, the synthesis allowed on-bead cyclization and side-chain substitution using selective deprotection reactions.
CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 33
IT **Peptides, preparation**
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(**cyclic**; preparation of multivalent **cyclic** neoglycopeptides using solid-phase synthesis)
IT **Cyclization**
Protective groups
Solid phase synthesis
(preparation of multivalent cyclic neoglycopeptides using solid-phase synthesis)
IT 324532-86-7P 324532-87-8P 324532-88-9P 324532-89-0DP, resin-bound 324532-90-3DP, resin-bound **324532-91-4P 324532-92-5DP**, resin-bound **324532-93-6P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of multivalent cyclic neoglycopeptides using solid-phase synthesis)

IT 324532-94-7P 324532-95-8P **324532-96-9P 324532-97-0P**
324532-98-1P 324532-99-2P 324533-00-8P
324533-01-9P 324533-02-0P 324533-03-1P
324533-04-2P 324533-05-3P 324533-06-4P
324533-07-5P 324533-08-6P 324533-09-7P
324533-10-0P 324533-11-1P 324533-12-2P
324533-13-3P 324533-62-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of multivalent cyclic neoglycopeptides using solid-phase synthesis)

REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 60 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:558049 HCAPLUS
DOCUMENT NUMBER: 133:267144
TITLE: Synthesis and characterization of octapeptide somatostatin analogs with backbone cyclization: comparison of different strategies, biological activities and enzymatic stabilities
AUTHOR(S): Besser, Diana; Muller, Bettina; Kleinwachter, Peter; Greiner, Georg; Seyfarth, Lydia; Steinmetzer, Torsten; Arad, Oded; Reissmann, Siegmund
CORPORATE SOURCE: Institut fur Biochemie und Biophysik, Friedrich-Schiller-Universitat, Jena, Germany
SOURCE: Journal fuer Praktische Chemie (Weinheim, Germany) (2000), 342(6), 537-545
CODEN: JPCHF4; ISSN: 1436-9966
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Somatostatin octapeptide analogs of the general sequence DPhe5-Phe6-Tyr7-DTrp8-Lys9-Val10-Phe11-Thr12-NH2 containing two types of backbone cyclization have been synthesized by the solid phase methodol. Backbone cyclization in these peptides was achieved via N-modified phenylalanines in position 6 and 11. The N-modified amino acids were incorporated as dipeptide building units which have been prepared in solution prior to the solid phase synthesis. Two dipeptide units of structure Fmoc-aa1 ψ[CO-N((CH2)n-X)]Phe-OH or Fmoc-aa1 ψ[CH2-N(CO(CH2)n-X)]Phe-OH have been introduced into the peptide sequence. Different resins and linkers were examined for an optimized peptide assembly and monitoring. The synthesized somatostatin analogs are highly resistant against enzymic degradation as determined in vitro by incubation with rat liver homogenate. The biol. activity was determined in binding expts. to the somatostatin receptors expressed in CHO - or BON-1 cells. Most analogs show moderate activity without differentiation between the receptor subtypes.

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 2, 7

IT **Peptides, preparation**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**
(octapeptides, **cyclic**; preparation, somatostatin receptor binding and enzymic degradation of octapeptide somatostatin analogs)

IT **Solid phase synthesis**
(peptide; preparation, somatostatin receptor binding and enzymic degradation of
octapeptide somatostatin analogs)
IT **Cyclization**
(preparation, somatostatin receptor binding and enzymic degradation of octapeptide somatostatin analogs)
IT **298709-87-2P**, J 1709 **298709-88-3P**, J 1712
298709-89-4P, J 1715 **298709-90-7P**, J 1719
298709-91-8P, J 1729 **298709-92-9P**, J 1729-D7
298709-93-0P, J 1738 **298709-94-1P**, J 1742
298709-95-2P, J 1746
RL: ANT (Analyte); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
(preparation, biol. activities and enzymic stabilities of octapeptide somatostatin analogs)
REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 61 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:335904 HCAPLUS
DOCUMENT NUMBER: 133:150880
TITLE: Solid-Phase Synthesis of Cyclic Peptide-DNA Hybrids
AUTHOR(S): Bleczinski, Colleen F.; Richert, Clemens
CORPORATE SOURCE: Department of Chemistry, Tufts University, Medford, MA, 02155, USA
SOURCE: Organic Letters (2000), 2(12), 1697-1700
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 133:150880
AB A methodol. for preparing cyclic peptide-DNA hybrids on controlled pore glass in high yield is reported. This methodol. employs Fmoc/Alloc-protected amino acid and nucleoside phosphoramidites on an ω-hydroxylauric acid-derivatized support and is suitable for library synthesis. A cyclic hybrid of the sequence Glu-Leu-T*T-DP-Lys, where Glu and Lys are linked and T* denotes a 5'-amino-5'-deoxynucleotide, exhibited high resistance to exo- and endonucleases.
CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 33
IT **Peptides, preparation**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**; RACT (Reactant or reagent)
(**cyclic**; solid-phase synthesis of **cyclic** peptide-DNA hybrids with high resistance to exo- and endonucleases)
IT Combinatorial chemistry
Cyclization
Solid phase synthesis
(solid-phase synthesis of cyclic peptide-DNA hybrids with high resistance to exo- and endonucleases)
IT 287475-64-3P **287475-68-7P** 287475-69-8DP, resin-bound
287475-70-1P **287475-72-3P** 287475-73-4P 287475-74-5P
287475-75-6P 287475-76-7P 287475-77-8P 287475-78-9P 287475-79-0P
287475-80-3P **287475-81-4P** **287475-83-6P**

287475-84-7P 287475-85-8P 287475-86-9P
287475-87-0P 287475-88-1P 287475-90-5P 287475-91-6P
287475-92-7P **287476-04-4P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(solid-phase synthesis of cyclic peptide-DNA hybrids with high resistance to exo- and endonucleases)
REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 62 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:288752 HCAPLUS
DOCUMENT NUMBER: 133:135601
TITLE: Synthesis of cyclic tetrapeptide hydroxamic acids by the use of oxime resin
AUTHOR(S): Nishino, Norikazu; Tomizaki, Kin-Ya; Tsukamoto, Makiko; Urakawa, Toshihiro
CORPORATE SOURCE: Institute for Fundamental Research of Organic Chemistry, Kyushu University, Fukuoka, 812-8581, Japan
SOURCE: Peptides 1998, Proceedings of the European Peptide Symposium, 25th, Budapest, Aug. 30-Sept. 4, 1998 (1999), Meeting Date 1998, 830-831. Editor(s): Bajusz, Sandor; Hudecz, Ferenc. Akademiai Kiado: Budapest, Hung.
CODEN: 68WKAY
DOCUMENT TYPE: Conference
LANGUAGE: English
AB A symposium report. For the synthesis of cyclic tetrapeptides, we examined various methods using Kaiser's oxime resin, such as solid-phase synthesis and high dilution cyclization in solution, cyclization cleavage, and cyclization on the resin (SPS-CS, SPS-CC, SPS-CR methods).
CC 34-3 (Amino Acids, Peptides, and Proteins)
IT **Solid phase synthesis**
(peptide; synthesis of cyclic tetrapeptide hydroxamic acids by use of oxime resin)
IT **Cyclization**
(synthesis of cyclic tetrapeptide hydroxamic acids by use of oxime resin)
IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(tetrapeptides, **cyclic**; synthesis of **cyclic** tetrapeptide hydroxamic acids by use of oxime resin)
IT **221186-46-5P 221186-70-5P 221186-84-1P**
286436-68-8P 286436-69-9P 286436-70-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of cyclic tetrapeptide hydroxamic acids by use of oxime resin)
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 63 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:264430 HCAPLUS
DOCUMENT NUMBER: 132:347911
TITLE: Synthesis of cyclic RGD derivatives on solid support
AUTHOR(S): Akaji, Kenichi; Aimoto, Saburo
CORPORATE SOURCE: Institute for Protein Research, Osaka University, Osaka, 565-0871, Japan
SOURCE: Peptide Science (1999), 36th, 1-4

CODEN: PSCIFQ; ISSN: 1344-7661
PUBLISHER: Japanese Peptide Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A symposium report. A novel intramol. macrocyclization reaction on solid support using the Heck reaction was performed. The Heck coupling of acrylic acid amide to 3-iodobenzylamine on solid support proceeds smoothly to yield a cyclic tetrapeptide derivative containing a new 3-substituted cinnamic acid template and Arg-Gly-Asp sequence. The macrocyclization takes place more rapidly on solid support than in solution
CC 34-3 (Amino Acids, Peptides, and Proteins)
IT **Cyclization**
(Heck; preparation of cyclic RGD derivs. on solid support using intramol.)
IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; preparation of **cyclic** RGD derivs. on solid support)
IT **Solid phase synthesis**
(peptide; preparation of cyclic RGD derivs. on solid support)
IT **Macrocyclization**
(preparation of cyclic RGD derivs. on solid support using intramol.)
IT 194154-35-3P 194154-36-4DP, resin-bound 194154-36-4P 270079-64-6DP, resin-bound 270079-64-6P **270079-65-7DP**, resin-bound **270079-65-7DP**, resin-bound
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of cyclic RGD derivs. on solid support)
IT **270079-66-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of cyclic RGD derivs. on solid support)
REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 64 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:227675 HCAPLUS
DOCUMENT NUMBER: 132:265506
TITLE: Solid phase synthesis of cyclic peptides as opioid receptors used in drug screening programs
INVENTOR(S): Smythe, Mark Leslie; Meutermans, Wim Denis Frans; Bourne, Gregory Thomas; McGeary, Ross Peter
PATENT ASSIGNEE(S): The University of Queensland, Australia
SOURCE: PCT Int. Appl., 159 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000018790	A1	20000406	WO 1999-AU813	19990924

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,

DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

CA 2345407	AA	20000406	CA 1999-2345407	19990924
AU 9961830	A1	20000417	AU 1999-61830	19990924
AU 766495	B2	20031016		
EP 1115738	A1	20010718	EP 1999-948610	19990924
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002533299	T2	20021008	JP 2000-572248	19990924
PRIORITY APPLN. INFO.:			AU 1998-6164 A	19980925
			WO 1999-AU813 W	19990924

OTHER SOURCE(S): CASREACT 132:265506

AB This invention relates to methods for preparing cyclic peptides and peptidomimetic compds. in solution and bound to solid supports and to cyclic peptide or peptidomimetic libraries for use in drug screening programs. In particular the invention relates to a generic strategy for synthesis of cyclic peptides or peptidomimetics which enables the efficient synthesis under mild conditions of a wide variety of desired compds. We have examined two approaches: (1) positioning reversible N-amide substituents in the sequence and (2) applying native ligation chemical in an intramol. sense. We have evaluated these for their improvements in the solution and solid phase synthesis of small cyclic peptides. We have systematically investigated the effects of pre-organizing peptides prior to cyclization by using peptide cyclization auxiliaries and have developed new linkers to aid cyclic peptide synthesis. We have found surprising improvements in both yields and purity of products compared to the prior art methods. The combination of these technologies provides a powerful generic approach for the solution and solid phase synthesis of small cyclic peptides. We have also developed linkers and peptide cyclization auxiliaries to aid cyclic peptide synthesis. The ring contraction and N-amide substitution technol. of the invention provide improved methods for the synthesis of cyclic peptides and peptidomimetics. When used in conjunction with linker strategies, this combination provides solid-phase avenues to cyclic peptides and peptidomimetics. Thus, cyclo[Tyr-Arg-L(or D)-Phe-Gly] were prepared using aminomethyl polystyrene resin p-OCHC6H4O(CH2)4COP (P = resin moiety) by reductive with glycine allyl ester and sequential coupling with phenylalanine, arginine, tyrosine derivs. and assayed for opioid receptor binding activity.

IC ICM C07K001-02
ICS C07K001-04; C07K001-107; C07K005-12; C07K007-64

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 1

IT **Peptides, preparation**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
(**cyclic**; solid phase synthesis of **cyclic** peptides as opioid receptors used in drug screening programs)

IT **Solid phase synthesis**
(peptide; solid phase synthesis of cyclic peptides as opioid receptors used in drug screening programs)

IT **Cyclization**
Drug screening
Peptide library
Peptidomimetics
(solid phase synthesis of cyclic peptides as opioid receptors used in drug screening programs)

IT **263144-23-6P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological

study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(solid phase synthesis of cyclic peptides as opioid receptors used in drug screening programs)

IT 3598-22-9P 5181-35-1P 18278-34-7P 38853-28-0P 84969-24-4P
93506-73-1P 159832-34-5P 178318-07-5P 178318-08-6P 224824-88-8P
224824-89-9P 224824-90-2P 224824-91-3P 224824-92-4P 224824-93-5P
224824-96-8P 224824-97-9P **252667-15-5P** 263276-82-0P
263276-83-1P **263276-84-2P 263276-85-3P** 263276-88-6P
263276-89-7P 263276-90-0P 263276-91-1P 263276-92-2P
263276-95-5P 263277-01-6P 263277-03-8P 263277-04-9P
263277-05-0P 263277-06-1P 263277-08-3P
263277-09-4P 263277-10-7P 263277-12-9P 263277-13-0P 263277-14-1P
263277-15-2P 263277-16-3P 263277-17-4P 263277-18-5P 263277-19-6P
263277-20-9P 263277-21-0P 263277-22-1P 263277-26-5P 263277-27-6P
263277-28-7P 263277-29-8P 263277-31-2DP, resin-bound
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(solid phase synthesis of cyclic peptides as opioid receptors used in drug screening programs)

IT **30504-43-9P 35748-71-1P 66377-89-7P,**
Cyclo(glycylglycylglycyl-N-methylglycyl) 96425-92-2P
145190-76-7P, Stylostatin 1 **189031-42-3P**
190081-88-0P 224824-87-7P **224824-98-0P**
252667-14-4P 252667-19-9P 263276-71-7P
263276-75-1P 263276-76-2P 263276-77-3P
263276-78-4P 263276-79-5P 263276-80-8P
263276-81-9P 263276-93-3P 263276-94-4P
263276-96-6P 263277-02-7P 263277-07-2P
263277-11-8P **263277-23-2P 263277-24-3P**
263277-25-4P 263277-30-1P 263277-32-3P
263277-33-4P 263277-34-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(solid phase synthesis of cyclic peptides as opioid receptors used in drug screening programs)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 65 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:227674 HCAPLUS
DOCUMENT NUMBER: 132:265505
TITLE: Solid phase synthesis of small cyclic peptides via on-resin cyclization
INVENTOR(S): Smythe, Mark Leslie; Meutermans, Wim Denise Frans
PATENT ASSIGNEE(S): The University of Queensland, Australia
SOURCE: PCT Int. Appl., 84 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000018789	A1	20000406	WO 1999-AU812	19990924

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD,

MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

CA 2345067	AA	20000406	CA 1999-2345067		19990924
AU 9963196	A1	20000417	AU 1999-63196		19990924
AU 768649	B2	20031218			
EP 1115739	A1	20010718	EP 1999-950390		19990924
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO					
JP 2002525376	T2	20020813	JP 2000-572247		19990924
PRIORITY APPLN. INFO.:			AU 1998-6165	A	19980925
			WO 1999-AU812	W	19990924

OTHER SOURCE(S): CASREACT 132:265505; MARPAT 132:265505

AB This invention relates to novel auxiliaries for the formation of amide bonds, and to the use of these auxiliaries in a variety of synthetic applications, such as the synthesis of peptides and peptidomimetic compds., and in particular for the synthesis of "small cyclic peptides", so-called "difficult" peptide sequences, and large peptides with a native peptide backbone. The auxiliaries of the invention are also useful in the synthesis of peptides or of C-terminal modified peptides, and in on-resin cyclization of organic mols., ligating chemical, backbone substitution and as backbone linkers. In a particularly preferred embodiment, the invention provides auxiliaries which can be removed by photolysis. Methods of synthesis of a linear or cyclic peptide, a C-terminal modified peptide, or of on-resin cyclization of a peptide mol., comprising the step of linking an amine nitrogen atom to an auxiliary compound of the invention, specific auxiliary compds., which may optionally be linked to a solid support, and kits for synthesis are disclosed and claimed. Thus, cyclo-[Ala-Phe-Leu-Pro-Ala] was prepared via on. resin cyclization reaction.

IC ICM C07K001-02
ICS C07K001-04; C07K001-107

CC 34-3 (Amino Acids, Peptides, and Proteins)

IT **Peptides, preparation**
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; solid phase synthesis of small **cyclic** peptides via on-resin cyclization)

IT **Solid phase synthesis**
(peptide; solid phase synthesis of small cyclic peptides via on-resin cyclization)

IT **Cyclization**
Peptidomimetics
(solid phase synthesis of small cyclic peptides via on-resin cyclization)

IT **189031-42-3P** 215923-20-9P 263144-08-7DP, resin bound 263144-09-8DP, resin bound 263144-10-1DP, resin bound 263144-11-2DP, resin bound 263144-12-3P 263144-13-4DP, resin bound 263144-14-5DP, resin bound **263144-21-4P 263144-23-6P** 263144-39-4DP, resin bound 263144-40-7DP, resin bound 263144-41-8DP, resin bound 263144-42-9DP, resin bound 263144-43-0DP, resin bound 263144-44-1DP, resin bound 263144-45-2DP, resin bound 263144-46-3DP, resin bound 263144-47-4DP, resin bound 263144-48-5DP, resin bound 263144-49-6DP, resin bound 263144-50-9DP, resin bound 263144-51-0DP, resin bound 263144-52-1DP, resin bound 263144-53-2DP, resin bound 263144-54-3DP, resin bound 263144-55-4DP, resin bound 263144-56-5DP, resin bound 263144-57-6DP, resin bound 263144-58-7DP, resin bound 263144-59-8DP,

resin bound 263144-60-1DP, resin bound 263146-86-7DP, resin bound
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(solid phase synthesis of small cyclic peptides via on-resin cyclization)

IT 252667-08-6P 252667-09-7P 252667-10-0P **252667-12-2P**
252667-14-4P 252667-19-9P 263144-00-9P
263144-01-0DP, resin bound 263144-03-2P 263144-06-5DP, resin bound
263144-07-6DP, resin bound 263144-15-6P **263144-18-9P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(solid phase synthesis of small cyclic peptides via on-resin cyclization)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 66 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:98000 HCAPLUS
DOCUMENT NUMBER: 132:308632
TITLE: Resin effects in solid phase SNAr and SN2 macrocyclizations
AUTHOR(S): Feng, Yangbo; Burgess, Kevin
CORPORATE SOURCE: Chemistry Department, Texas A and M University, College Station, TX, 77842, USA
SOURCE: Biotechnology and Bioengineering (2000), 71(1), 3-8
CODEN: BIBIAU; ISSN: 0006-3592
PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Seven different supports (i.e., NovaGel-, TentaGel- and ArgoGel-type polystyrene-PEG resins, Merrifield-type polystyrene resin, etc.) were compared in solid-phase SNAr and SN2 macrocyclization reactions. Product purities were assayed for a relatively facile ring-closure process to give cyclic peptides I [n = 1, 2; X = O, NH; R1 = CHMe2, CH2CONH2; R2 = (CH2)2CO2H, (CH2)4NH2; L (linker) = NHCH2CONH2, NH2] and II. Some less-facile ring-closure reactions gave the undesired dimeric macrocyclization byproducts; some of these more-demanding ring closures were also examined Finally, expts. were performed to gauge the rate of cyclizations on different resins, and some qual. data were obtained for this.

CC 34-3 (Amino Acids, Peptides, and Proteins)

IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; resin effects in solid-phase SNAr and SN2 macrocyclizations for peptides)

IT **Macrocyclization**
Solid phase synthesis
(resin effects in solid-phase SNAr and SN2 macrocyclizations for peptides)

IT **265658-17-1P**
RL: BYP (Byproduct); PREP (Preparation)
(resin effects in solid-phase SNAr and SN2 macrocyclizations for peptides)

IT **256470-83-4P 265658-11-5P 265658-12-6P**
265658-15-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(resin effects in solid-phase SNAr and SN2 macrocyclizations for peptides)

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 67 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:18145 HCAPLUS
DOCUMENT NUMBER: 132:222851
TITLE: Solid-phase synthesis and cyclization of a large branched peptide from IgG Fc with affinity for FcγRI
AUTHOR(S): Sheridan, Joseph M.; Hayes, Gillian M.; Austen, Brian M.
CORPORATE SOURCE: Peptide Unit, Department of Surgery, St George's Hospital Medical School, London, SW17 0RE, UK
SOURCE: Journal of Peptide Science (1999), 5(12), 555-562
CODEN: JPSIEI; ISSN: 1075-2617
PUBLISHER: John Wiley & Sons Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A solid phase approach has been used to synthesize a large branched disulfide peptide from IgG Fc, Ac-F-C*-A-K-V-N-N-K-D-L-P-A-P-I-E-K(Ac-E-L-L-G-G-P-S-V-F)-C*-I-NH2. This peptide combines the lower hinge region of IgG and a proximal β-hairpin loop, both implicated in binding to FcγRI. Solid phase Tl(tfa)3 cyclization of the linear branched peptide resulted in a poor yield of cyclic hinge-loop peptide (11%) most likely due to steric hindrance caused by the branch. However, if addition of the branch was preceded by solid phase Tl(tfa)3 cyclization of the loop, the yield was excellent at 75%. Cyclic hinge-loop peptide was active in displacing IgG2a from FcγRI expressed on monocyte cell lines with an IC50 of 40 μM, whereas the linear form of this peptide was inactive. The Fc hinge-loop peptide demonstrates the potential for a non-mAb high affinity, immunomodulatory ligand for FcγRI.

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 15

IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; solid-phase synthesis and cyclization of a large branched peptide from IgG Fc with affinity for FcγRI)

IT **Solid phase synthesis**
(peptide; solid-phase synthesis and cyclization of a large branched peptide from IgG Fc with affinity for FcγRI)

IT **Cyclization**
Immunomodulators
(solid-phase synthesis and cyclization of a large branched peptide from IgG Fc with affinity for FcγRI)

IT **261170-99-4P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(solid-phase synthesis and cyclization of a large branched peptide from IgG Fc with affinity for FcγRI)

IT 261170-95-0DP, resin-bound **261170-96-1DP**, resin-bound 261170-97-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(solid-phase synthesis and cyclization of a large branched peptide from IgG Fc with affinity for FcγRI)

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 68 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:805774 HCAPLUS
DOCUMENT NUMBER: 132:222839
TITLE: Solid support synthesis of 14- and 17-membered macrocycles via the SNAr methodology
AUTHOR(S): Kiselyov, Alexander S.; Smith, Leon, II; Tempest, Paul
CORPORATE SOURCE: Small Molecule Drug Discovery, Amgen Inc., Thousand Oaks, CA, 91320-1789, USA
SOURCE: Tetrahedron (1999), 55(52), 14813-14822
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 132:222839

AB Efficient assembly of 14-membered macrocycles utilizing the SNAr of fluorine in 3-fluoro-4-nitrobenzoic acid with the OH of 3-hydroxytyrosine on solid support is reported. The flexibility of this synthesis, as well as the excellent purity (>90%) of the final products are the distinctive characteristic of the resultant library.

CC 34-3 (Amino Acids, Peptides, and Proteins)

IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; solid support synthesis of 14- and 17-membered macrocycles via the SNAr methodol.)

IT **Cyclization**
Peptide library
Solid phase synthesis
Substitution reaction, nucleophilic
(solid support synthesis of 14- and 17-membered macrocycles via the SNAr methodol.)

IT 261165-92-8P 261165-93-9P 261165-94-0P 261165-95-1P 261165-96-2P
261165-97-3P 261165-98-4P 261165-99-5P 261166-00-1P 261166-01-2P
261166-02-3P 261166-03-4P 261166-04-5P 261166-05-6P 261166-07-8P
261166-08-9P 261166-09-0P 261166-10-3P 261166-11-4P 261166-12-5P
261166-13-6P 261166-14-7P 261166-15-8P 261166-16-9P 261166-17-0P
261166-18-1P 261166-19-2P 261166-20-5P 261166-21-6P 261166-22-7P
261166-23-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(solid support synthesis of 14- and 17-membered macrocycles via the SNAr methodol.)

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 69 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:639598 HCAPLUS
DOCUMENT NUMBER: 132:23176
TITLE: Solid-phase synthesis of cyclooctadepsipeptide N-4909 using a cyclization-cleavage method with oxime resin
AUTHOR(S): Suguro, Toshio; Yanai, Makoto
CORPORATE SOURCE: 1st Pharmaceutical Laboratory, Pharmaceutical Research Laboratories, Nisshin Flour Milling Co., Ltd., Saitama, 356-8511, Japan
SOURCE: Journal of Antibiotics (1999), 52(9), 835-838
CODEN: JANTAJ; ISSN: 0021-8820
PUBLISHER: Japan Antibiotics Research Association
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 132:23176

AB Cyclooctadepsipeptide N 4909 I (R1 = OH) was prepared using a cyclization-cleavage method with oxime resin. Tetradecanoic acid derivative

II (preparation given) was coupled with the oxime resin using O-(7-azabenzotriazol-1-yl)-1,1,3,3-tetramethyluronium hexafluorophosphate (HATU) and deprotected with TFA/CH2Cl2 then coupled with Boc-D-Leu-OH using HATU. This procedure was repeated using other amino acid reactants to give oxime resin bound depsipeptide III (Boc = Me3CO2C) which was deprotected and then cleaved along with cyclization using Et3N and acetic acid to give cyclized depsipeptide I (R1 = OCH2Ph) in 43% yield. The benzyl protecting group on aspartic acid was removed to give N 4909 I (R1 = OH). The authors plan to use this method to develop a combinatorial library of N 4909 analogs.

CC 34-3 (Amino Acids, Peptides, and Proteins)

IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**, cyclodepsipeptides; solid-phase synthesis of cyclooctadepsipeptide N 4909 using a cyclization-cleavage method with oxime resin)

IT **Cyclization**
Solid phase synthesis
(solid-phase synthesis of cyclooctadepsipeptide N 4909 using a cyclization-cleavage method with oxime resin)

IT 251981-63-2P 251981-64-3P 251981-65-4DP, oxime resin-bound
251981-66-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(solid-phase synthesis of cyclooctadepsipeptide N 4909 using a cyclization-cleavage method with oxime resin)

IT **173928-66-0P**, N-4909
RL: SPN (Synthetic preparation); PREP (Preparation)
(solid-phase synthesis of cyclooctadepsipeptide N 4909 using a cyclization-cleavage method with oxime resin)

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 70 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:578835 HCAPLUS
DOCUMENT NUMBER: 132:152113
TITLE: Disulfide oxidation in water: investigation of CLEAR supports for on-resin cyclization
AUTHOR(S): Darlak, K.; Darlak, M.; Spatola, A. F.
CORPORATE SOURCE: Peptides International, Inc., Louisville, KY, 40299, USA
SOURCE: Peptide Science: Present and Future, Proceedings of the International Peptide Symposium, 1st, Kyoto, Nov. 30-Dec. 5, 1997 (1999), Meeting Date 1997, 584-586. Editor(s): Shimonishi, Yasutsugu. Kluwer: Dordrecht, Neth.
CODEN: 68BYA5
DOCUMENT TYPE: Conference
LANGUAGE: English

AB A symposium report. An RGD cyclic hexapeptide, a cyclic dermorphin analog and oxytocin were synthesized using CLEAR (Cross-Linked Ethoxylate Acrylate Resin) support for on-resin disulfide-forming oxidns. Oxidns. on CLEAR amide resin gave yields and relative purities which were comparable for several resin-bound methods. The use of water as a co-solvent, together with the unique CLEAR resin, are key factors which make this combination compatible with inorg. oxidants such as K3Fe(CN)6.

CC 34-3 (Amino Acids, Peptides, and Proteins)

IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**

(**cyclic**; preparation of **cyclic** peptides, using CLEAR supports for on-resin disulfide-forming oxidns.)

IT **Solid phase synthesis**
(peptide; preparation of cyclic peptides, using CLEAR supports for on-resin disulfide-forming oxidns.)

IT **Cyclization**
Oxidation
(preparation of cyclic peptides, using CLEAR supports for on-resin disulfide-forming oxidns.)

IT **50-56-6P**, Oxytocin, preparation **124870-51-5P**
257955-84-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of cyclic peptides, using CLEAR supports for on-resin disulfide-forming oxidns.)

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 71 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:457838 HCAPLUS
DOCUMENT NUMBER: 131:228987
TITLE: Synthesis of cyclic Herpes simplex virus peptides containing 281-284 epitope of glycoprotein D-1 in endo- or exo-position
AUTHOR(S): Mezo, Gabor; Majer, Zsuzsa; Valero, Mari-Luz; Andreu, David; Hudecz, Ferenc
CORPORATE SOURCE: Research Group of Peptide Chemistry, Hungarian Academy of Sciences, Budapest, H-1117, Hung.
SOURCE: Journal of Peptide Science (1999), 5(6), 272-282
CODEN: JPSIEI; ISSN: 1075-2617
PUBLISHER: John Wiley & Sons Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The authors have prepared two types of cyclopeptides containing the 281DPVG284 sequence from the 276-284 region of glycoprotein gD-1 of the Herpes simplex virus (HSV). The syntheses were performed by solid phase methodol. using MBHA or BHA resin and orthogonal protection schemes. Head-to-side-chain cyclization included the N-terminal part of the epitope, while side-chain-to-side-chain lactam bridge formation resulted in a peptide containing a C-terminal cycle. Peptides elongated by Cys at the N-terminal of the sequence were also prepared Boc chemical using Fmoc and OFm orthogonal protection was applied for on-resin cyclization. Based on the orthogonality of Bzl and cHex esters under a 1 M TMSOTf-thio-anisole/TFA cleavage condition, a new approach for the cyclization on BHA-resin has also been developed. Preliminary studies on solution conformation of the cyclic peptides by CD spectroscopy indicated the importance of the location and the size of the cycle within the epitope sequence.

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 14, 15

IT **Peptides, preparation**
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(**cyclic**; synthesis of **cyclic** Herpes simplex virus peptides containing 281-284 epitope of glycoprotein D-1 in endo- or exo-position)

IT Conformation
Cyclization
Epitopes
Human herpesvirus 1
Solid phase synthesis

(synthesis of cyclic Herpes simplex virus peptides containing 281-284 epitope of glycoprotein D-1 in endo- or exo-position)

IT **243836-21-7P 243836-22-8P 243836-23-9P**
243836-24-0P 243836-25-1P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation and biol. activity of as HSVI glycoprotein D-1 epitopes)

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 72 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:304472 HCAPLUS
DOCUMENT NUMBER: 131:88171
TITLE: Amino Acid Side Chain Attachment Approach and Its Application to the Synthesis of Tyrosine-Containing Cyclic Peptides
AUTHOR(S): Cabrele, Chiara; Langer, Michael; Beck-Sickinger, Annette G.
CORPORATE SOURCE: Department of Pharmacy Pharmaceutical Biochemistry, ETH Zurich, Zurich, 8057, Switz.
SOURCE: Journal of Organic Chemistry (1999), 64(12), 4353-4361
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The technique of resin loading by the attachment of the amino acid side chain represents a powerful tool for the synthesis of cyclopeptides by solid phase. We investigated the anchoring of the side chain of N-(9-fluorenylmethoxycarbonyl, Fmoc)-tyrosine Me ester to benzyl-type resins by the Mitsunobu reaction. Satisfactory loading was obtained for HMPB-MBHA and Wang resins. The suitability of the preloaded resins for solid-phase peptide synthesis by using the Fmoc strategy, combined with the head-to-tail cyclization on the solid support, was illustrated by the preparation of three cyclic analogs of neuropeptide Y (NPY), a 36-residue peptide hormone and one of the most abundant neuropeptides in the brain. Each peptide contained the N- and C-terminal tetrapeptide segments of NPY, joined by different spacers: 6-aminohexanoic acid, β-alanine, or Ala-Aib. First the synthesis of the peptide Me esters was performed, followed by saponification and cyclization on the resin. HOBt/DIC or HOBt/TBTU was used for the ring closure. The CD spectra of the three cyclopeptides in 30% trifluoroethanol showed a type I and III β-turns structure, which was already adopted by the (Ala-Aib)-containing cyclopeptide in water. The CD spectra, together with the biol. assays, confirmed the suitability of these cyclopeptides as conformationally restricted peptides that may serve as lead structures in drug development.

CC 34-3 (Amino Acids, Peptides, and Proteins)

IT Conformation
Cyclization
(amino acid side chain attachment approach and its application to the synthesis of tyrosine-containing cyclic peptides)

IT **Peptides, preparation**
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(**cyclic**; amino acid side chain attachment approach and its application to the synthesis of tyrosine-containing **cyclic** peptides)

IT **Solid phase synthesis**
(peptide; amino acid side chain attachment approach and its application

to the synthesis of tyrosine-containing cyclic peptides)
IT 82911-79-3DP, polymer-bound 229307-16-8DP, polymer-bound
229307-17-9DP, polymer-bound 229307-18-0DP, polymer-bound
229307-19-1DP, polymer-bound 229307-20-4DP, polymer-bound
229307-21-5DP, polymer-bound **229307-22-6DP**, polymer-bound
229307-23-7DP, polymer-bound **229307-24-8DP**,
polymer-bound
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of in the synthesis of tyrosine-containing cyclic peptides using side chain attachment solid-phase synthesis)
IT 229307-16-8P 229307-17-9P 229307-18-0P 229307-19-1P 229307-20-4P
229307-21-5P **229307-22-6P 229307-23-7P**
229307-24-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of using side chain attachment solid-phase synthesis)
REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 73 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:210361 HCAPLUS
DOCUMENT NUMBER: 130:352526
TITLE: A Backbone Linker for BOC-Based Peptide Synthesis and On-Resin Cyclization: Synthesis of Stylostatin 1
AUTHOR(S): Bourne, Gregory T.; Meutermans, Wim D. F.; Alewood, Paul F.; McGeary, Ross P.; Scanlon, Martin; Watson, Andrew A.; Smythe, Mark L.
CORPORATE SOURCE: Centre for Drug Design and Development, The University of Queensland, Brisbane, 4072, Australia
SOURCE: Journal of Organic Chemistry (1999), 64(9), 3095-3101
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB We have developed a new 4-alkoxybenzyl-derived linker that anchors the C-terminal amino acid to the resin through the α-nitrogen atom. The linker allows BOC solid-phase peptide assembly and peptide cleavage using standard HF protocols. This linking strategy provides a versatile on-resin route to cyclic peptides and avoids the diketopiperazine formation that is prominent when using FMOC chemical on backbone linkers. The linker was prepared by forming the aryl ether from 4-hydroxybenzaldehyde and bromovaleric acid. Subsequent reductive amination of the aldehyde with an allyl-protected amino acid ester and acylation of the resulting secondary amine provided the tertiary amide. After linking the amide to the resin, standard BOC SPPS, followed by allyl deprotection, cyclization, and HF cleavage gave cyclic peptides in high purity. To exemplify the strategy, the cytotoxic heptapeptide, stylostatin 1, was synthesized from two linear precursors. For comparison purposes, the yields of the on-resin and solution-phase cyclization were determined and found to be dependent upon the linear precursor. This linker technol. provides new solid-phase avenues in accessing libraries of cyclic peptides.
CC 34-3 (Amino Acids, Peptides, and Proteins)
IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; solid phase synthesis on resin of stylostatin via cyclization)
IT **Solid phase synthesis**
(peptide; solid phase synthesis on resin of stylostatin via cyclization)

IT **Cyclization**
(solid phase synthesis on resin of stylostatin via cyclization)
IT 132090-09-6P **145190-76-7P**, Stylostatin 1 **224824-98-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(solid phase synthesis on resin of stylostatin via cyclization)
REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 74 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:557117 HCAPLUS
DOCUMENT NUMBER: 129:276319
TITLE: Solid phase synthesis of cyclic peptides: model studies involving i - (i + 4) side chain-to-side chain cyclization
AUTHOR(S): Cavallaro, Vittoria; Thompson, Philip; Hearn, Milton
CORPORATE SOURCE: Centre for Bioprocess Technology, Department of Biochemistry and Molecular Biology, Monash University, Clayton, 3168, Australia
SOURCE: Journal of Peptide Science (1998), 4(5), 335-343
CODEN: JPSIEI; ISSN: 1075-2617
PUBLISHER: John Wiley & Sons Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Conditions for the synthesis of i-(i+4) side chain-to-side chain head-to-tail Lys→Glu and Glu→Lys linked cyclic peptides related to hypoglycemic analogs of human growth hormone hGH[6-13] have been examined The success of the cyclization reaction with the corresponding resin-bound, partially protected linear peptides was both reagent as well as sequence dependent, with competing inter-chain oligomerization predominating in some cases. The results also indicated that protection with the bulky 9-fluorenylmethoxycarbonyl (Fmoc) group of the amino acid residues immediately adjacent to the side chain-deprotected Lys and Glu residues, which participate in the cyclization reaction, enhanced the rate of lactam formation.
CC 34-3 (Amino Acids, Peptides, and Proteins)
IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; solid phase synthesis of **cyclic** peptides involving side chain to side chain cyclization)
IT **Solid phase synthesis**
(peptide; solid phase synthesis of cyclic peptides involving side chain to side chain cyclization)
IT **Cyclization**
(solid phase synthesis of cyclic peptides involving side chain to side chain cyclization)
IT **213816-20-7P** 213816-21-8P **213816-22-9P** 213816-23-0P
213816-24-1P 213816-25-2P **213816-26-3P** 213816-27-4P
213816-28-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(solid phase synthesis of cyclic peptides involving side chain to side chain cyclization)
REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 75 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:533761 HCAPLUS
DOCUMENT NUMBER: 129:260829
TITLE: Solid-phase synthesis and on-resin cyclization of a disulfide bond peptide and lactam analogs

corresponding to the major antigenic site of HIV gp41 protein

AUTHOR(S): Limal, D.; Briand, J.-P.; Dalbon, P.; Jolivet, M.
CORPORATE SOURCE: Institut de Biologie Moleculaire et Cellulaire, UPR 9021 CNRS, Strasbourg, F-67084, Fr.

SOURCE: Journal of Peptide Research (1998), 52(2), 121-129
CODEN: JPERFA; ISSN: 1397-002X
PUBLISHER: Munksgaard International Publishers Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A cyclic peptide, Biotin-Ahx-Ile-Trp-Gly-Cys-Ser-Gly-Lys-Leu-Ile-Cys-Thr-Thr-Ala-OH (Ahx = aminohexanoic acid), that spans the major antigenic determinant of the human immunodeficiency virus (HIV) glycoprotein 41 (gp41) has been synthesized according to various strategies. For immunodiagnostic applications, biotin was added at the N-terminus of the peptide and aminohexanoic acid was used as a spacer. Polymer-supported oxidns. were carried out in a variety of ways with thallium (III) trifluoroacetate. The biotinyl-cyclic peptide was released from the support using trimethylsilyl trifluoromethane sulfonate and various scavengers. The efficacy of these different cyclization and cleavage procedures was compared. Side reactions were studied, and a simple and efficient procedure was set up to monitor peptide cyclization by mass spectrometry. In a second series of syntheses the disulfide bridge was replaced by an amide bond. For this purpose, an aspartic acid derivative and a diaminopropionic acid were introduced during the synthesis in place of the two cysteine residues in the parent sequence. On-resin cyclization was performed and led to a major side-product identified as a piperidide. This undesired base-mediated side reaction was prevented when, instead of piperidine, 1,8-diazabicyclo-[5.4.0]undec-7-ene was used for fluorenylmethyl ester deprotection. Reactivity of these peptides with different patients' sera and with a monoclonal antibody directed against the whole gp41 was tested using an ELISA.

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 15

IT **Peptides, preparation**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); **PREP (Preparation)**
(**cyclic**; solid-phase synthesis and on-resin cyclization of a disulfide bond peptide and lactam analogs corresponding to the major antigenic site of HIV gp41 protein)

IT **Solid phase synthesis**
(peptide; solid-phase synthesis and on-resin cyclization of a disulfide bond peptide and lactam analogs corresponding to the major antigenic site of HIV gp41 protein)

IT **Cyclization**
Human immunodeficiency virus
(solid-phase synthesis and on-resin cyclization of a disulfide bond peptide and lactam analogs corresponding to the major antigenic site of HIV gp41 protein)

IT **213608-78-7P 213608-84-5P 213608-85-6P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(solid-phase synthesis and on-resin cyclization of a disulfide bond peptide and lactam analogs corresponding to the major antigenic site of HIV gp41 protein)

IT **213608-78-7DP**, benzylated **213608-80-1P** 213608-83-4P
RL: BYP (Byproduct); PREP (Preparation)

(solid-phase synthesis and on-resin cyclization of a disulfide bond peptide and lactam analogs corresponding to the major antigenic site of HIV gp41 protein)

IT **213608-86-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(solid-phase synthesis and on-resin cyclization of a disulfide bond peptide and lactam analogs corresponding to the major antigenic site of HIV gp41 protein)

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 76 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:463967 HCAPLUS
DOCUMENT NUMBER: 129:203259
TITLE: A biomimetic strategy in the synthesis and fragmentation of cyclic protein
AUTHOR(S): Tam, James P.; Lu, Yi-An
CORPORATE SOURCE: Department of Microbiology and Immunology, Vanderbilt University, Nashville, TN, 37232, USA
SOURCE: Protein Science (1998), 7(7), 1583-1592
CODEN: PRCIEI; ISSN: 0961-8368
PUBLISHER: Cambridge University Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB This paper describes a simple biomimetic strategy to prepare small cyclic proteins containing multiple disulfide bonds. The author's strategy involves intramol. acyl transfer reactions to assist both the synthesis and fragmentation of these highly constrained cyclic structures in aqueous solution To illustrate this strategy, the authors prepared the naturally occurring circulin B and cyclopsychotride (CPT), both consisting of 31 amino acid residues tightly packed in a cystine-knot motif with three disulfide bonds and an end-to-end cyclic form. The synthesis of these small cyclic proteins can be achieved by orthogonal ligation of free peptide thioester via the thia zip reaction, which involves a series of reversible thiol-thiolactone exchanges to arrive at an α-amino thiolactone, which then undergoes an irreversible, spontaneous ring contraction through an S,N-acyl migration to form the cyclic protein. A two-step disulfide formation strategy is employed for obtaining the desired disulfide-paired products. Partial acid hydrolysis through intramol. acyl transfer of X-Ser, X-Thr, Asp-X, and Glu-X sequences is used to obtain the assignment of the circulins disulfide bond connectives. Both synthetic circulin B and CPT are identical to the natural products and, thus, the total synthesis confirms the disulfide connectivity of circulin B and CPT contain a cystine-knot motif of 1-4, 2-5, and 3-6. In general, this strategy, based on the convergence of chemical proteolysis and aminolysis of peptide bonds through acyl transfer, is biomimetic and provides a useful approach for the synthesis and characterization of large end-to-end cyclic peptides and small proteins.

CC 34-3 (Amino Acids, Peptides, and Proteins)

IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclic**; preparation of small cystine-containing knot proteins via thia zip cyclization)

IT **Solid phase synthesis**
(peptide; preparation of small cystine-containing knot proteins via thia zip cyclization)

IT **Cyclization**
(preparation of small cystine-containing knot proteins via thia zip cyclization)

IT **212206-74-1P 212206-76-3P**
RL: BYP (Byproduct); PREP (Preparation)
(preparation of small cystine-containing knot proteins via thia zip cyclization)
IT 212206-78-5P 212206-80-9P **212206-82-1P 212206-84-3P**
212206-87-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of small cystine-containing knot proteins via thia zip cyclization)
IT **158276-31-4P**, Circulin B (Chassalia parvifolia)
161471-68-7P, Cyclopsychotride A
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of small cystine-containing knot proteins via thia zip cyclization)
REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 77 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:812195 HCAPLUS
DOCUMENT NUMBER: 128:61803
TITLE: Process for preparation and anticardiolipin antibody binding affinities of cyclic peptides containing thioether linkages
INVENTOR(S): Yu, Lin
PATENT ASSIGNEE(S): La Jolla Pharmaceutical Company, USA; Yu, Lin
SOURCE: PCT Int. Appl., 75 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9746248	A1	19971211	WO 1997-US9403	19970528
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5817752	A	19981006	US 1996-748021	19961112
AU 9732938	A1	19980105	AU 1997-32938	19970528
AU 714954	B2	20000113		
EP 904096	A1	19990331	EP 1997-928766	19970528
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2000512633	T2	20000926	JP 1998-500733	19970528
US 6031073	A	20000229	US 1997-974297	19971119
PRIORITY APPLN. INFO.:			US 1996-660739 A	19960606
			US 1996-748021 A1	19961112
			WO 1997-US9403 W	19970528

OTHER SOURCE(S): MARPAT 128:61803
AB This invention relates to the preparation of cyclic peptides I [L1, L2 = independently C1-10 divalent hydrocarbyl moieties; A1, A2 = independently α-amino acid fragments; X1 = JN-(AA)p; X2 = (AA)q; X3 = (AA)r-JC; AA

= amino acid; JN = N-terminal substituent; JC = C-terminal substituent; p, q, r = independently 0-50] containing a thioether linkage. More particularly, this invention relates to halogenated polypeptides having at least one haloalanine-like amino acid, and methods for their preparation which involve converting the hydroxyl group of a serine-like amino acid to a halo group X (X = Cl, Br, iodo) with the aid of a phosphorus-based halogenation reagent such as a Ph3PX2, (PhO)3PX2, or a mixture of Ph3P or (PhO)3P with a halohydrocarbon. This invention also relates to cyclic polypeptides having at least one polypeptide loop comprising a thioether linkage, and methods for their preparation which employ halogenated polypeptides and which involve intramol. alkylation of the thiol group of a cysteine-like amino acid by the halo group of a haloalanine-like amino acid under suitable basic conditions to form a thioether linkage. Thus, preparation of resin-bound, protected peptide Cbz-Ala-Gly-Pro-Hse(TBDMS)-Leu-Gly-Val-Leu-Gly-Lys(Cbz)-Leu-Cys(StBu)-Pro-Gly-Resin (Cbz = phCH2O2C; Hse = homoserine; TBDMS = tert-butyldimethylsilyl; tBu - tert-butyl; Resin = Wang resin) was prepared using standard 9-fluorenylmethoxycarbonyl (Fmoc) chemical
The TBDMS group was converted into a chloro group by treatment with 6 equiv Ph3PCl2 in CH2Cl2 overnight, and the resulting resin-bound chloropeptide was cleaved with HF, anisole, Me2S, and p-thiocresol to give 22% chloropeptide H-Ala-Gly-Pro-NHCH(CH2CH2Cl)CO-Leu-Gly-Val-Leu-Gly-Lys-Leu-Cys-Pro-Gly-OH, which was cyclized with Na2CO3 in aqueous MeCN to give 94% cyclic thioether peptide II (R = H-Ala-Gly-Pro). Binding affinities of II and related thioether cyclopeptides to anticardiolipin antibody were similar to the corresponding disulfide cyclic peptides.

IC ICM A61K038-00
ICS C07K007-06; C07K007-08

CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 1, 2, 15

IT **Peptides, preparation**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); IMF (Industrial manufacture); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)
(**cyclic**, thioether-containing; process for preparation and anticardiolipin antibody binding affinities of **cyclic** peptides containing thioether linkages)

IT **Peptides, preparation**
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(haloalanine-containing; process for preparation and anticardiolipin antibody binding affinities of **cyclic** peptides containing thioether linkages)

IT **Solid phase synthesis**
(peptide; process for preparation and anticardiolipin antibody binding affinities of cyclic peptides containing thioether linkages)

IT **Cyclization**
Halogenation
(process for preparation and anticardiolipin antibody binding affinities of cyclic peptides containing thioether linkages)

IT **200188-19-8P 200188-22-3P 200188-24-5P**
200188-27-8P 200188-29-0P 200188-31-4P
200188-32-5P 200188-35-8P 200188-37-0P
200188-39-2P 200188-41-6P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); IMF (Industrial manufacture); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP

(Preparation); USES (Uses)
(process for preparation and anticardiolipin antibody binding affinities of cyclic peptides containing thioether linkages)

IT **200188-18-7P 200188-43-8P 200188-44-9P**
200188-45-0P 200188-46-1P 200188-47-2P
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(process for preparation and anticardiolipin antibody binding affinities of cyclic peptides containing thioether linkages)

L35 ANSWER 78 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:141020 HCAPLUS
DOCUMENT NUMBER: 126:157521
TITLE: Combinatorial libraries of substrate-bound cyclic organic compounds
INVENTOR(S): Desai, Manoi C.; Nuss, John M.; Spear, Kerry L.; Singh, Rajinder; Renhowe, Paul A.; Brown, Edward G.; Richter, Lutz; Scott, Barbara O.
PATENT ASSIGNEE(S): Chiron Corporation, USA
SOURCE: PCT Int. Appl., 100 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9640201	A1	19961219	WO 1996-US7684	19960523
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML				
US 5958792	A	19990928	US 1995-485006	19950607
CA 2221508	AA	19961219	CA 1996-2221508	19960523
AU 9659320	A1	19961230	AU 1996-59320	19960523
EP 777492	A1	19970611	EP 1996-916633	19960523
R: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
CN 1192154	A	19980902	CN 1996-195924	19960523
JP 2001518053	T2	20011009	JP 1997-500720	19960523
PRIORITY APPLN. INFO.:			US 1995-485006 A	19950607
			WO 1996-US7684 W	19960523

OTHER SOURCE(S): MARPAT 126:157521

AB The invention relates to libraries of cyclic organic compds. and methods of producing and assaying such libraries. According to the invention, each cyclic organic compound is constructed from a starting material in the form of a solid surface derivatized with a starting resin. Compds. are reacted with the resin to add or form a cyclic group. The reactions are preferably carried out using a split resin procedure so that different compds. can be reacted with a plurality of subamounts so as to increase the size of the library. For example, compds. are reacted with a solid support bound starting resin to obtain a compound which includes an aldehyde functional group wherein the aldehyde compound or compds. reacted with it have substituents which are varied such that a mixture of products is obtained. The invention further relates to methods of producing combinatorial libraries of cyclic organic compds. from substrate bound

compds. by cleaving the compds. from the support after synthesizing is completed and to assaying libraries of such compds. Several actual examples show the construction of aromatic and heterocyclic organic compds. on Rink amide resins. Addnl. prophetic examples show the preparation of libraries by analogous methods. For instance, the Rink amide resin-bound aldehyde Resin-NHCOC6H4CHO-4 was cyclized with sarcosine and di-Me muconate at 110°, and the product was worked up and cleaved from the support with CF3CO2H in CH2Cl2, to give a total of 4 isomers of the target compds. I and II.

IC ICM A61K038-02

CC 28-16 (Heterocyclic Compounds (More Than One Hetero Atom))
Section cross-reference(s): 27, 34, 45

IT **Peptides, preparation**
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); **PREP (Preparation)**
(analogs; preparation of combinatorial libraries of substrate-bound **cyclic** organic compds.)

IT Combinatorial library
Cyclocondensation reaction
Solid phase synthesis
(preparation of combinatorial libraries of substrate-bound cyclic organic compds.)

IT 6051-41-8P, 4-Formylbenzamide 186685-82-5P 186685-83-6P 186685-84-7P 186685-85-8P 186685-86-9P, Methyl α-acetyl-4-(carbamoylmethoxy)cinnamate 186685-88-1P, Dimethyl (4-carbamoylbenzylidene)malonate 186685-89-2P, (4-Formyl-2-methoxyphenoxy)acetamide 186685-90-5P 186685-92-7P, 3-Cyano-6-methyl-4-(4-carbamoylphenyl)-2(1H)-pyridinone 186685-94-9P, 4-[5-(Phenylmethyl)-3-acetyl-2-furanyl]benzamide 186685-95-0P 186685-96-1P 186685-97-2P 186685-98-3P 186685-99-4P, 4-Cinnamoylbenzamide 186686-00-0P 186686-01-1P 186686-02-2P 186686-03-3P 186686-05-5P 186686-07-7P **186686-08-8P 186686-09-9P 186686-10-2P 186686-11-3P**
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(preparation of combinatorial libraries of substrate-bound cyclic organic compds.)

L35 ANSWER 79 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:130471 HCAPLUS
DOCUMENT NUMBER: 126:238641
TITLE: Self-assembly of cyclic peptides on a dendrimer: multiple cyclic antigen peptides
AUTHOR(S): Spetzler, Jane C.; Tam, James P.
CORPORATE SOURCE: Vanderbilt Univ., Nashville, TN, USA
SOURCE: Peptide Research (1996), 9(6), 290-296
CODEN: PEREEO; ISSN: 1040-5704
PUBLISHER: Eaton
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Multiple cyclic antigen peptides (McAPs) are dendrimers that have branched, multiple closed-chain architectures. An approach is described for a stepwise, solid-phase synthesis that permits a self-assembly of cyclization reactions of a McAP with four copies of cyclic peptides in solution after their cleavage from the resin with all protecting groups removed. The conceptual framework of our approach is the development of a method favoring intrachain cyclization based on ring-chain tautomerism between an N-terminal Cys and an aldehyde attached to the side chain of Lys to form a loop linked by a thiazolidine ring. The McAP precursor

contains an N-terminal Cys(St-Bu) and an internal Lys(Ser). A trialkylphosphine is used to deblock Cys(St-Bu) on the amino terminus and to effect the concomitant thiazolidine formation with the glyoxyl moiety obtained from an oxidative conversion of the Ser on the Lys side chain. Two McAPs, each containing cyclic peptides of 17 and 24 amino acides residues, have been prepared To evaluate intrachain cyclization yields, a cleavage site as Asp-Pro is incorporated at the carboxy terminus of each monomeric loop and subsequently released after completion of the cyclization by treatment with formic acid at an elevated temperature Reversed-phase HPLC analyses of the liberated cyclic peptide monomer with synthetic stds. support the theory that intrachain cyclization is the predominant cyclization pathway and validate the usefulness of this ring-chain tautomerization concept in the self-assembly of cyclic peptides on a branched peptide dendrimer.

CC 34-3 (Amino Acids, Peptides, and Proteins)

IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(dendrimers; self-assembly of **cyclic** peptides on a dendrimer in preparation of multiple **cyclic** antigen peptides)

IT **Solid phase synthesis**
(peptide; self-assembly of cyclic peptides on a dendrimer in preparation of multiple cyclic antigen peptides)

IT **Cyclization**
(self-assembly of cyclic peptides on a dendrimer in preparation of multiple cyclic antigen peptides)

IT 188555-30-8P 188555-32-0P **188555-34-2P 188555-36-4P**
188555-37-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(self-assembly of cyclic peptides on a dendrimer in preparation of multiple cyclic antigen peptides)

L35 ANSWER 80 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:198466 HCAPLUS
DOCUMENT NUMBER: 124:344073
TITLE: Efficient solid-phase synthesis of peptides with tripodal side-chain bridges and optimization of the solvent conditions for solid-phase cyclizations
AUTHOR(S): Zhang, Wentao; Taylor, John W.
CORPORATE SOURCE: Dep. Chem., Rutgers Univ., Piscataway, NJ, 08854-0939, USA
SOURCE: Tetrahedron Letters (1996), 37(13), 2173-6
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Problems of cyclodimerization during the synthesis of two large-ring monocyclic peptides have allowed the authors to identify optimized solvent conditions for solid-phase cyclizations. These conditions combine high solvent polarity with excellent peptide-resin swelling. Using this newly optimized solvent system for the cyclizations, we have employed standard tert-butoxycarbonyl (Boc)/benzyl methods and orthogonal 9-fluorenylmethoxycarbonyl (Fmoc)/9-fluorenylmethoxy (OFm) and allyloxycarbonyl (Alloc)/allyloxy (OAl) protection to construct the novel bicyclic peptide I with a tripodal side chain bridge. The bridge, which links 3 amino acid side chains to one trifunctional template, illustrates a new approach to peptide scaffolding for α-helix stabilization that might readily be applied to more complex structures.

CC 34-3 (Amino Acids, Peptides, and Proteins)

IT **Merrifield synthesis**

Ring closure and formation
(efficient solid-phase synthesis of peptides with tripodal side chain bridges and optimization of the solvent conditions for solid-phase cyclizations)

IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclo**-, efficient solid-phase synthesis of peptides with tripodal side chain bridges and optimization of the solvent conditions for solid-phase cyclizations)

IT **176754-95-3P 176754-96-4P 176895-38-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(efficient solid-phase synthesis of peptides with tripodal side chain bridges and optimization of the solvent conditions for solid-phase cyclizations)

L35 ANSWER 81 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:580200 HCAPLUS
DOCUMENT NUMBER: 121:180200
TITLE: Peptide-cyclizations on solid support: a fast and efficient route to small cyclopeptides
AUTHOR(S): Richter, Lutz S.; Tom, Jeffrey Y. K.; Burnier, John P.
CORPORATE SOURCE: Dep. Bioorg. Chem., Genentech, Inc., South San Francisco, CA, 94080, USA
SOURCE: Tetrahedron Letters (1994), 35(31), 5547-50
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A series of cyclic penta-, hexa- and heptapeptides was synthesized using a novel cyclization strategy. After attachment of the first amino acid to the solid support with a thioester-linkage, the linear peptides were synthesized using Boc chemical Head-to-tail cyclizations were performed on the solid support and provided the desired cyclopeptides in high purity and good yields.
CC 34-3 (Amino Acids, Peptides, and Proteins)
IT **Merrifield synthesis**
(of cyclic peptides)
IT **Ring closure and formation**
(of peptides on solid support)
IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclo**-, preparation of, via cyclization on solid support)
IT **136553-81-6P 157702-64-2P 157702-65-3P**
157702-66-4P 157702-67-5P 157702-68-6P
157702-69-7P 157702-70-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, via cyclization on solid support)

L35 ANSWER 82 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1993:449883 HCAPLUS
DOCUMENT NUMBER: 119:49883
TITLE: Peptide cyclization on TFA labile resin using the trimethylsilyl (TMSE) ester as an orthogonal protecting group
AUTHOR(S): Marlowe, Charles K.
CORPORATE SOURCE: Chiron Corp., Emeryville, CA, 94608, USA
SOURCE: Bioorganic & Medicinal Chemistry Letters (1993), 3(3), 437-40
CODEN: BMCLE8; ISSN: 0960-894X
DOCUMENT TYPE: Journal

LANGUAGE: English
OTHER SOURCE(S): CASREACT 119:49883
AB The trimethylsilylethyl (TMSE) ester group was used as an orthogonal protecting group to perform an on-resin cyclization of a peptide prepared by conventional 9-fluorenylmethoxycarbonyl (Fmoc) protection strategy. Fmoc-Asp(OTMSE)-OH was prepared and loaded onto Rink amine resin to give resin-bound aspartic acid I, which was used in the synthesis of resin-bound peptide II (R = TMSE), which was TMSE-deblocked by Bu4NF to give II (R = H). The latter was cyclized by BOP and the cyclic peptide was cleaved from the resin to afford cyclic peptide III.
CC 34-3 (Amino Acids, Peptides, and Proteins)
IT **Merrifield synthesis**
(of cyclic peptides, cyclization on trifluoroacetic acid-labile resin in)
IT **Ring closure and formation**
(of peptides on trifluoroacetic acid-labile resin using trimethylsilyl ester as orthogonal protecting group)
IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclo**-, preparation of, by cyclization of peptides on trifluoroacetic acid-labile resin using trimethylsilyl ester as orthogonal protecting group)
IT **148625-42-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, by cyclization of peptide on trifluoroacetic acid-labile resin using trimethylsilyl ester as orthogonal protecting group)

L35 ANSWER 83 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1992:194832 HCAPLUS
DOCUMENT NUMBER: 116:194832
TITLE: Facile synthesis of cyclic peptides containing α-aminosuberic acid with oxime resin
AUTHOR(S): Nishino, Norikazu; Xu, Ming; Mihara, Hisakazu; Fujimoto, Tsutomu; Ohba, Masataka; Ueno, Yukio; Kumagai, Hiromichi
CORPORATE SOURCE: Fac. Eng., Kyushu Inst. Technol., Kitakyushu, 804, Japan
SOURCE: Journal of the Chemical Society, Chemical Communications (1992), (2), 180-1
CODEN: JCCCAT; ISSN: 0022-4936
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Title cyclic peptides, e.g., I, were prepared by the solid-phase method using an oxime resin. The protected peptide was cyclized when it was cleaved from the oxime resin by Et3N/HOAc.
CC 34-3 (Amino Acids, Peptides, and Proteins)
IT **Merrifield synthesis**
(of aminosuberic acid-containing cyclic peptides, oxime resin for)
IT **Ring closure and formation**
(of aminosuberic acid-containing during cleavage from oxime resin)
IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclo**-, aminobueric acid-containing, preparation of, on oxime resin)
IT **139903-97-2P 139903-99-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and deblocking of)
IT 4254-88-0DP, cyclic peptides containing **83428-27-7P**
139903-98-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, by solid-phase method on oxime resin)

L35 ANSWER 84 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1992:129573 HCAPLUS
DOCUMENT NUMBER: 116:129573
TITLE: Solid phase synthesis of a cyclic peptide using Fmoc chemistry
AUTHOR(S): McMurray, John S.
CORPORATE SOURCE: M. D. Anderson Cancer Cent., Univ. Texas, Houston, TX, 77030, USA
SOURCE: Tetrahedron Letters (1991), 32(52), 7679-82
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Using the 9-fluorenylmethoxycarbonyl (Fmoc) protection strategy of solid-phase peptide synthesis, a 10 amino acid peptide was prepared and cyclized in a head-to-tail fashion while it was attached to the solid support to give cyclic peptide I. Cyclization was accomplished with either BOP or carbodiimide and the peptide was cleaved from the resin and purified using standard protocols.
CC 34-3 (Amino Acids, Peptides, and Proteins)
IT **Merrifield synthesis**
(of cyclic peptide, cyclization on resin in)
IT **Ring closure and formation**
(of peptide on solid-phase resin)
IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclo**-, preparation of, by solid-phase method via clclization on resin)
IT **139338-82-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, by solid-phage method, on-resin cyclization in)

L35 ANSWER 85 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1991:608537 HCAPLUS
DOCUMENT NUMBER: 115:208537
TITLE: Cyclized peptide amides: characterization of intermediates during deprotection and systematic investigations of side-chain cyclization
AUTHOR(S): Duerr, Hansjoerg; Hoffmann, Eike; Beck-Sickinger, Annette G.; Jung, Guenther
CORPORATE SOURCE: Inst. Org. Chem., Univ. Tuebingen, Tuebingen, D-7400, Germany
SOURCE: Pept. 1990, Proc. Eur. Pept. Symp., 21st (1991), Meeting Date 1990, 216-18. Editor(s): Giralt, Ernest; Andreu, David. ESCOM Sci. Publ.: Leiden, Neth.
CODEN: 57HNAI
DOCUMENT TYPE: Conference
LANGUAGE: English
AB A symposium report on the synthesis of side-chain cyclic NPY analog I [Ahx = HN(CH2)5CO] by the solid-phase method. In order to optimize a preparation method for partially protected peptide amides suitable for cyclization the cleavage of alanine amide from the model compound alanyl-ADPV-alanyl-aminomethyl-polystyrene-1%-divinylbenzene was investigated.
CC 34-3 (Amino Acids, Peptides, and Proteins)
IT **Merrifield synthesis**
(of side-chain cyclic peptide amides)
IT **Ring closure and formation**

(side-chain, of peptide amides)
IT **Peptides, compounds**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(amides, **cyclic**, preparation of, by solid-phase method)
IT **133970-28-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

L35 ANSWER 86 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1991:492906 HCAPLUS
DOCUMENT NUMBER: 115:92906
TITLE: Cyclization of disulfide-containing peptides in solid-phase synthesis
AUTHOR(S): Albericio, Fernando; Hammer, Robert P.; Garcia-Echeverria, Carlos; Molins, M. Antonia; Chang, Jane L.; Munson, Mark C.; Pons, Miquel; Giralt, Ernest; Barany, George
CORPORATE SOURCE: Dep. Chem., Univ. Minnesota, Minneapolis, MN, 55455, USA
SOURCE: International Journal of Peptide & Protein Research (1991), 37(5), 402-13
CODEN: IJPPC3; ISSN: 0367-8377
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Disulfide-containing peptides may be obtained in good yields and purities when oxidns. are carried out on peptide chains anchored to polymeric supports used for solid-phase synthesis. Such approaches take advantage of the pseudo-dilution phenomenon which favors intramol. processes. A variety of procedures have been demonstrated using the related model peptides I and II (Pen = penicillamine) (which both readily assume a type II β-turn conformation that becomes stabilized by a 14-membered disulfide-containing intramol. ring), and oxytocin (II) (conformationally mobile 20-membered disulfide ring). Both tert-butoxycarbonyl and 9-fluorenylmethoxycarbonyl were used for Nα-amino protection, the β-thiols of cysteine or penicillamine were blocked by S-acetamidomethyl, S-9-fluorenylmethyl, or S-trityl, and compatible anchoring linkages included HF-labile 4-methylbenzhydrylamide, TFA-labile tris(alkoxy)benzylamide, and photolabile o-nitrobenzylamide. Assemblies of linear sequences proceeded smoothly, and polymer-supported oxidns. were carried out in a variety of ways either directly or after deblocking to the resin-bound dithiol. Chains were released from the support without substantial damage to the disulfide bridges, and overall yields were as high as 60-90%.
CC 34-3 (Amino Acids, Peptides, and Proteins)
IT Oxidation
Ring closure and formation
(of cysteine- and penicillamine-containing peptides on polymer support, disulfide-containing peptides from)
IT **Merrifield synthesis**
(of disulfide-containing peptides, cyclic disulfide coupling on polymer support in)
IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(disulfide-containing, preparation of, by solid-phase method, **cyclic** disulfide coupling on polymer support in)
IT **50-56-6P**, Oxytocin, preparation **125768-50-5P** **129972-49-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, by solid-phase method, cyclic disulfide coupling on polymer support in)

L35 ANSWER 87 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1990:36428 HCAPLUS
DOCUMENT NUMBER: 112:36428
TITLE: Automated synthesis of N-bromoacetyl-modified peptides for the preparation of synthetic peptide polymers, peptide-protein conjugates, and cyclic peptides
AUTHOR(S): Robey, Frank A.; Fields, Raymond L.
CORPORATE SOURCE: Lab. Cell. Dev. Oncol., Natl. Inst. Dent. Res., Bethesda, MD, 20892, USA
SOURCE: Analytical Biochemistry (1989), 177(2), 373-7
CODEN: ANBCA2; ISSN: 0003-2697
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A method to incorporate N-bromoacetyl moieties at the amino termini of synthetic peptides using a standard program with an automated peptide synthesizer has been developed. The N-bromoacetyl-derivatized peptides react with sulfhydryl-containing proteins and with peptides containing cysteine residues. Autopolymn. or cyclization occurs by reaction of the free sulfhydryl of cysteine in a peptide with the bromoacetyl group and reactions can generally be controlled by controlling the concns. of starting peptide in neutral pH buffers. Anal. methods for evaluating the polymers or cyclized peptides include gel filtration chromatog., reverse phase HPLC, sodium dodecyl sulfate-polyacrylamide gel electrophoresis, and amino acid anal. where the degree of reaction can be evaluated by quantifying the amount of S-carboxylmethylcysteine formed after HCl hydrolysis. N-Bromoacetyl-derivatized peptides may be useful as reagents for potential peptide immunogens, vaccines, and therapeutics and as intermediates in the production of solid supports with peptide surfaces.
CC 34-3 (Amino Acids, Peptides, and Proteins)
IT Polymerization
Ring closure and formation
(of bromoacetyl cysteine-containing peptides)
IT **Merrifield synthesis**
(automated, of bromoacetyl peptides)
IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclo-**, preparation of, by cyclization of bromoacetyl cysteine-containing peptides)
IT 124335-12-2P 124522-91-4P **124522-92-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

L35 ANSWER 88 OF 88 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1985:560823 HCAPLUS
DOCUMENT NUMBER: 103:160823
TITLE: Synthesis of side-chain to side-chain cyclized peptide analogs on solid supports
AUTHOR(S): Schiller, Peter W.; Nguyen, Thi M. D.; Miller, Jack
CORPORATE SOURCE: Lab. Chem. Biol. Peptide Res., Clin. Res. Inst. Montreal, Montreal, QC, Can.
SOURCE: International Journal of Peptide & Protein Research (1985), 25(2), 171-7
CODEN: IJPPC3; ISSN: 0367-8377
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Opioid peptide cyclic analogs I (X = Gly, null), II, III (X1 = Gly, null), IV, and V were prepared on solid supports in which the cyclization step took place on the resin. The formation of the cyclic structures may be

preceded or followed by peptide chain assembly and the entire peptide chain containing the cyclic portion was cleaved from the resin by HF. Anal. of side products showed a slow-down of the HF deprotection of O-benzylated tyrosine due to hydrophobic interactions as well as the formation of antiparallel cyclic dimer VI in the case of IV.

CC 34-3 (Amino Acids, Peptides, and Proteins)

IT **Ring closure and formation**
(of peptides on solid support, side-chain peptides from)

IT **Merrifield synthesis**
(of side-chain cyclic peptides)

IT **Peptides, preparation**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**cyclo**-, preparation of, via cyclization on solid support)

IT **95610-90-5P 95610-91-6P** 95610-94-9P 95610-95-0P
95610-96-1P 95610-98-3P **98673-72-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, by solid-phase method via cyclization on solid support)